

# THE PHILOSOPHICAL ROOTS OF PSYCHOLOGY AS A SCIENCE.

---

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF  
MASTER OF ARTS IN PSYCHOLOGY  
IN THE UNIVERSITY OF CANTERBURY.

BY  
JOHN ROSS GOURLEY

---

UNIVERSITY OF CANTERBURY

1991

## **ACKNOWLEDGEMENTS**

I would like to express my appreciation to everyone who has offered me their support during the writing of this thesis in various capacities. I am particularly indebted to the following people: Dr Brian Haig for supervising my work; my parents Ross and Lyall; my friends: Bill, Bob, David, Jonathan, Lesley, Martin, Mike(x2), Neill(x2), Nick, Pete, Richard, Ross, Tim(x2), and Wendy; and to Jane and Grace who made the worst moments bearable.

## **ABSTRACT**

*The following work seeks to demonstrate the ways in which a discipline's philosophical conception of science defines not only its method, but indeed, its entire academic structure.*

*Traditionally, scientific empiricism has been viewed as the only legitimate conception of science within psychology, however, by challenging this view, it is found that empiricism represents a weak philosophical system upon which to base notions of rational inquiry. It is further suggested that the alternative of realist philosophy and implicated method take its place. By way of an example, the latter half of the work acts to demonstrate the ways in which empiricism has defined a number of maladaptive constructions within the realm of sport psychology, and how an adoption of the realist alternative may enable a more complete and rational understanding of the psychology of sport.*

## CONTENTS

Acknowledgments	
Abstract	
Introduction	5
SECTION ONE: Psychology and the Nature of Science: Empiricism...Realism...and Beyond?	10
The Nature of Science	11
Empiricism	13
Dualism	13
Reductionism	16
Humean Causation	19
The Scientific status of Empiricist Psychology	22
Realism	24
The Intersubjective	24
Generative Causation	27
Realist Conception of Science	29
Poststructuralism	33
Saussure - The Importance of Language	34
The Production of Meaning - A critique of Structuralism	36
Poststructuralism and Realism	39
SECTION TWO: Psychology as a Product of Philosophy: The Example of Sport Psychology	41
Overview: History as a Product of Philosophy	42
Academic Sport Psychology - Empiricism Critiqued	43
Applied Sport Psychology: The loss of Theory	48
The Realist Interpretation	54
Realist Science: Reevaluation and Synthesis	57
The Problem of Consciousness	62
Sport Psychology's Privileged Position	67
Poststructuralism Revisited	69
Conclusion	71
Bibliography	73

## Introduction

The practical links that exist between philosophy, science, and academic theory and practice are, in most views, at best, highly oblique. Commonly, philosophy is considered to represent an esoteric field of practice with little or no relevance to the actual projects of academics, scientists or clinicians operating within the 'real' world. Scientific method is often presumed to have been carried down from the mountain top along with the Ten Commandments by Moses; a fully formulated and immutable practice. In this sense, if one should be so bold as to raise questions regarding the appropriateness of this practice, no doubt the reactions of those involved in this area would be less than positive. Indeed, often scientists or practitioners insist that their interests are not in the 'extraneous' levels of philosophical debate regarding the adequacy of their procedures, but rather in the area of the practical; in "doing something". Such a view posits the usefulness of practice, as opposed to the relative uselessness of discourse regarding practice.

Perhaps because of this perception, that to examine the machinations of a philosophical view and its consequent methodology is not, in itself, a legitimate or practical exercise; it is not in itself 'doing something', any discussion of philosophy within the realm of science has tended to have been treated with scant regard. Perhaps little more than a passing reference in a methods paper, or as an historical peculiarity within a brief overview of a subject. However, as this thesis will attempt to foreground, rather than being a mere exercise in trivia, the examination of the links between science, philosophy, and academic practice are indeed crucial to the actual results of such practice. Indeed, it is the examination of the philosophy(s) upon which any particular methodological procedure is based that often renders up areas within that method which clearly are working to undermine, or illegitimate, any claims that it may be attempting to assert towards the grounds of 'truth', 'meaning', or 'scientific fact'.

Further to this, it is also important to remember in this area of discussion that, although indisputably useful, science can never be said to offer a means of attaining a

position of total truth. For indeed, just as religious systems of belief once operated as the central foundations upon which our knowledge of the world were built, but have since been largely undermined by the postulations of scientific activity, so too is it possible to conceive of a situation in which science, in turn, is undermined by another competing discourse. In the same way that religious philosophies, when recognised as such, have been replaced by a more cognitive, rather than spiritual, interpretation of reality, so too is it perhaps possible for this to occur in the realm of science. Indeed, it would seem important that in order to continue to be of practical use in the world, science should constantly examine and re-examine its philosophical bases and actively discourage the prevailing view that there is somehow a naturalness, or essential truth in its discussions of reality, the world, or human behaviour. Thus, as this thesis will discuss, science is a system like any other that has developed over the course of civilisation and is founded upon philosophies which may, or may not, be useful for representing and explaining the world.

In order to be of practical use, then, it would seem pertinent for us to examine some of the central tenets of mainstream scientific practice. In this way, as I have suggested above, science may continue to hone its pragmatic methodological tools for the purpose of accurately achieving its aim of delineating the nature of reality. During the course of this thesis I will place the very notion of science itself under the microscope of inquiry in order to show how a discussion of the philosophies at play within any particular conception or discourse may have profound implications for the academic practices and procedures that it informs.

Thus, it is to the adequacy of empiricism, as the incumbent and dominant system of "science" that our attention shall initially be turned. Representing by far the most widely practiced methodology of science, as we will see, it is wholly based upon the assumption that all behaviour - animate or inanimate - and all operations of reality, may be unproblematically observed and recorded by the objective figure of the scientist, or clinician, who is able to interpret this data with the minimum of extraneous difficulties.

The most difficult area of conjecture within the practice of empiricism lies in its dualistic view of reality, a view which rests upon a philosophical foundation which, as I shall argue, seems largely untenable in any practical or useful manner. We may look at the wider assumptions of dualistically determined empiricism using the figure of Zeno's paradox regarding the flight path of an arrow: for just as it is impossible to stop an arrow in mid-flight in order to examine how it flies, so too is it impossible for the scientist or clinician to somehow disregard his or her subjective state in order to make so-called objective postulations about an object's behaviour. Indeed, just as an arrow, once stopped, is no longer the same arrow observed flying, neither is it possible to hypothesize about reality if subjectivity, a function and state of reality, is removed. Furthermore, as I will argue, there can be no state in which subjectivity may be said to have been effectively "removed". This, like Zeno's example, is a paradox.

In the light of the existence of such metaphysical dilemmas within the dominant scientific paradigm, and the consequential effects that such problems present for disciplines wishing to imbue themselves with the legitimization science is thought to confer, our analysis thus turns to the potentials of other, less contradictory and problematic, philosophical conceptions of science. In this regard, analysis now turns to the adequacy of the theory of realism.

As a philosophy, realism represents a more unified, coherent and reasonable discourse upon the structure of the world, our relationship to it, and the consequent nature of the practices that are found to be appropriate within this relationship. Rather than denying the "limitations" of human knowledge, and thereby creating for itself the inescapable paradoxes of the order Zeno reveals in presenting to us, realist philosophy founds itself instead upon an analysis of the content of such "limitations". In this way, a picture of human existence is created that reflects, in some substantial or relevant way, what our knowledge structures may "truly" be said to represent and how their generation may best be understood, and thus, undertaken.

Consequently, realism's analysis of the intersubjective foundations of meaning and the generative causal structure of the world, come to redefine the methods and objectives of rational inquiry. That is, the philosophy of realism comes to redefine what may be appropriately conceived of as representing the notion of science.

In turn, the adequacy of this realist philosophical construction of science is examined by reference to contemporary poststructuralist developments in the theory of knowledge. While it is contended here that such developments themselves suffer from inadequacies in their conceptualisation, most particularly in Derrida's total disjunction between the never ending "chain of signification" and the world in which we exist; it is still suggested that certain elements of poststructural theory may be beneficially employed without necessarily compromising realism's metaphysics.

In order that the largely theoretical nature of this foregoing discussion may be grounded, so as to draw more sharply into focus the dramatic impact of philosophical discourse upon a discipline's historical development, methodological and theoretical perspectives, and research interests, section two of the text concentrates upon the implications that both empiricism and realism hold for sport psychology. Initially it is shown how historically empiricism has shaped the discipline's structures, ultimately producing the fractious splintering of its members into two distinct, and largely opposing groups.

Discussion then draws upon how realism's alternative philosophical perspective of science enables the two competing sub-disciplines of sport psychology to be positioned such that their opposing methods and goals are in fact shown to be complementary in nature. It thereby suggests how they might be reunited within a single framework in a viable and productive working relationship. Within this working relationship, particular reference is then paid to the privileged position that sport psychology holds in overcoming many of the fundamental problems that the conceptually relational nature of human



behaviour poses to its experimental examination. Finally, a brief reference is paid to possible areas in which realist philosophy may in turn require further development.

---

## SECTION ONE

---

Psychology And The Nature Of Science:

Empiricism...Realism...and Beyond?

## The nature of science.

Over the course of the past one hundred years, "science" has increasingly come to be seen, by most people living within the Western world, as our best and most legitimate means of coming to understand the nature of reality, or of establishing the "truth of things". Previous to this, it was to the doctrines of religious scriptures that people most often turned for the answers to the questions that the world around them posed. Unsurprisingly then, as the natural sciences have grown, our secular driven understandings of the world have increasingly come to define the character of our culture, our society and of "us" as individuals within these structures. However, despite the dramatic impact science has undoubtedly had upon the direction of humankind throughout the course of this century, attempts to define what exactly it is, how it works, or why it is apparently so successful, have thus far proven to be as notoriously difficult as our attempts to define the previous belief system of religion that it has, arguably, superseded in many areas.

In everyday understandings, the practice of science is unproblematically taken to be synonymous with the practice of the natural sciences. "Science", then, is simply thought to be what physicists, chemists and biologists "do". But what such people do and what makes their practice and the knowledge derived from it unique and distinctive from other forms of practice and knowledge is a subject upon which philosophers, from the time of Plato to the present, have been largely unable to agree. Perhaps because of this, the representation of science within psychology has typically failed to go far beyond the uncritical, everyday conceptualization's expressed above. Indeed, it is contended here that this evidently circular understanding of science is largely responsible for the inability of contemporary psychology to critically assess its own scientific adequacy and also for the common misrepresentation of the historical development of psychology as a scientific discipline.

If we are to examine what most historical analyses of the progression of psychology have stated, we find an almost unanimous agreement amongst writers that, as a

discipline, psychology either became a science, or at least attempted to become a science, when it consciously decided to adopt the methods and procedures of the natural sciences. Thus, it is widely believed that when psychologists began to "do" what physicists, chemists and biologists "do", their discipline - by definition - became a "science". The next step of this common analysis has, of course, been to note that in a number of significant ways, psychologists do not "do" what their natural science counterparts do, and thus the question as to whether or not psychology may validly be considered to represent a science is raised anew. Furthermore, in the absence of a more effective conception of science, this question, and the whole adequacy of psychology's current programme, remains unanswerable.

We must thus look to some of the philosophical understandings of what science is if we are ever to understand the proper role and function of this construct within psychology. The first benefit of such an approach is that it enables a full recognition of the inadequacies of the currently popular historical understanding outlined above. For psychology never consciously adopted the practices of the natural sciences but rather, the underlying philosophy by which such practices were thought to be made scientific.

Many writers have pointed out that psychology modelled itself upon the natural sciences..., but in fact psychology did nothing of the kind; rather it modelled itself upon an essentially empiricist account of the logic of scientific reasoning.  
(Greenwood, 1983, p. 237)

Thus, the fact that there exists some departure from an exact mirroring of the practices of the natural sciences is neither surprising, nor does it threaten the notion of psychology as a science. For as long as its practice is consistent with its empiricist philosophical foundations, then scientific psychology remains a tenable proposition. The most crucial area of critical evaluation, in terms of assessing "science" and scientific practice then, lies not directly in the particular methods and procedures adopted, but rather in the adequacy of the philosophical conceptualisation that makes such methods and

procedures scientific. In the case of psychology it is thus to the adequacy of empiricism, or neopositivism, that we must attend in order to assess the feasibility of psychology as a scientific discipline.

## Empiricism

Empiricism, as a philosophical doctrine, in fact, encompasses a wide spectrum of divergent viewpoints, or considerations, of the exact nature of the world and of scientific practice. This range extends from the harshest of the Skinnerian behaviourist conceptions to the more flexible, or "liberal", neopositivist formulations of recent times. While, like most philosophies, it does not speak with a single unified voice, certain themes common to all the various schools are readily identifiable and may justifiably be said to represent the essential features of all systems classified under the general rubric of empiricism.

### Dualism

Most central to all empiricist formulations is the dualistic concept of the "objective world" as a distinct and separate entity from that of the "subjective world". By invoking this form of cartesian dualism it is argued that science is the practice of discovering the objective by an elimination of the confounding illusions of the subjective "mind". The implications of this dualist understanding of reality are profound, for they suggest a whole plethora of related dualisms upon which the majority of positivist scientific practice is based. These include, for example, the epistemological division of the world into strictly true-false, factual-hypothetical, quantitative-qualitative, rational-moral and sensory-perceptual categories.

The critical aspect of this assumption is not the existence of two related, yet autonomous, realms per se, but rather the belief that it is possible to *escape one realm in order to exist in the other*. In other words, that we may establish true, factual and preferably quantitative knowledge of reality by "dwelling in" the sensory world of the objective, rather than in the subjective, perceptual world of our everyday, unscientific

lives. This "escape" is thought to be made possible by the presumed sequential nature of human perception, which is believed to allow us access to conceptually unmediated sensory experiences. Since empiricism proposes that the sensations we experience are only subsequently conceptually mediated, thereby giving rise to our perceptions, it is further postulated that we may attend to these sensations prior to the "interference" of this mediating, subjective element. Sensations are thus thought to be somehow intrinsically meaningful and wholly representative of the objective world, and can therefore be conceived of as constituting the "basic units" of our objective, scientific understandings and knowledge of the world.

Currently more popular within empiricist thinking is a somewhat "softened" version of the above conceptualisation of perception in which it is suggested that the perceptual process may also possess a subjective element which exists prior to the sensate being experienced. This subjective element is believed to exist in the form of pre-existing theories that we hold about an object. Such theories are conceived of as necessarily directing our attention, or observations, towards seeing those particular sensates associated with the object that are related to the theory we currently hold about it. That is, the sensations we receive will necessarily be biased by the pre-existing theories we hold about the object in question. However, by retaining a sequential view of perception, the sensate may still be retained as the intrinsically meaningful "basic unit" of scientific knowledge, for the "subjective problem" of selective attention created by the presence of such pre-existing theories is thought to be resolvable by way of the employment of quasi-control techniques such as placebos, control groups, double blind experimenters and so forth - the rationale being that if you do not know the "current theory/hypothesis", then your observations cannot be biased by it. This particular permutation of the empiricist argument is, under these terms, believed to answer many of positivism's critics by supposedly demonstrating that an acknowledgement of the "theory laden" nature of the perceptual process does not necessarily require us to surrender the possibility of "sensory observation". In fact, it will

be argued, this point of view remains as problematic as all dualistic formulations that have been constructed along empiricist lines.

While the distinction between sensation and perception appears to be useful in terms of aiding our understandings of the physical and neurological basis of perception - that is, in helping us to conceptualise the temporal sequence of energy transduction from its origin as reflected light through to its subsequent representation as electrochemical activity along the optic pathways and then on to its final emission as "sensation" in the optical-cortical region of the brain - attempting to maintain this same distinction at the non-reduced level of integrated human perceptual behaviour becomes entirely untenable. It is simply not the case that we experience a sensation and then conceptually attend to it. Rather, a "referent" and its sense relations are so intimately bound together that in a very real way we actually learn to see the world in particular ways. We do not passively build reflections of "reality" but instead actively create schema in order that we can discriminate our perceptual world in a way that is meaningful to us. As Pratt(1980) puts it,

...far from labelling pre-discriminated entities, our concepts make their discrimination possible.(p.53)

Typically, such conceptual mediation within perception is so deeply habituated that we are totally unaware of its presence, thereby creating the common illusion that it does not in fact exist at all, and subsequently, allowing the emergence of the sensation-perception dualism. However, as O'Connor and Carr (1982) have noted, the very expression in language of any visual experience, no matter how primitive (for example, "I see yellow"), demonstrates that a conceptual element is always present, even though we are seldom consciously aware of it. When confronted by a task, or situation, that is in some way novel however, this conceptual element typically becomes strikingly apparent to us. For example, if shown an electronmicroscopic photograph of the cross-section of the nerve-ending of a hair cell within the cochlea, it is highly unlikely that we will actually "see" anything other than some apparently random blotches and squiggles, unless we have

had prior experience with such photographs and anatomical structures. However, note that once we are familiar with identifying such structures, we will almost certainly forget that we have in fact learnt to make such discriminations.

The conceptual aspect of perception is then inescapable. If we were somehow able to free ourselves from it, our experience would be essentially "unhuman". It would represent a denial of our basic human quality, or necessity, to impose conceptual form and order onto the world of experience, and would leave us with only a bizarre kaleidoscope of random uninterpretable (or uninterpreted) lights, shapes and forms. Every observation, then, is instantaneously the product of both physical stimulation and conceptual saturation, to the point where to speak of one without the other is utterly nonsensical. By refusing to acknowledge the extent of such conceptual saturation, or the meanings that attend our various observations, scientific empiricism has chosen to ignore a basic reality of human existence.

The impact of this ignorance is profound, not only directly upon the feasibility of the observational method that it informs, but also with respect to the tenability of the whole dualistic structure upon which this observational method is founded. For, by denying the possibility of "sensory based" observation, empiricism is effectively precluded from entering the "objective world" of absolute truth and facts in which it claims to "dwell", and thus of unproblematically distinguishing the sorts of clear-cut true-false, rational-moral, significant-insignificant dualisms that it posits underlie our knowledge systems.

### Reductionism

Beyond this, at best, highly dubious dualistic framework, empiricism's second most readily identifiable feature lies in its universal commitment to reductionism as the most appropriate means for understanding the world - with a corresponding preference towards quantification for this same reason.

Reductionism, simply stated, combines two basic beliefs within a single method, or philosophical perspective, that may then be applied in order to facilitate, or enable, our



understanding of complex objects and situations. These two beliefs are, firstly; that any complex whole is fully explicable in terms of the combined additive nature of its component parts; and secondly, that the further, or more fundamental, the reductionist disaggregation you achieve, the more fundamental, or full, is your consequent understanding of the complex whole in which you are interested. Thus, for example, if we were to decompose some biological event into its constituent chemical elements, determine the relationship between these elements, and then add our knowledge of these disaggregated units together, we would not only have achieved a full description of the biological event but also a better, or more fundamental, understanding of it. Ideally then, the subject matter of all the disciplines, ranging from sociology at the top of the traditional "subject hierarchy" through to psychology, biology, chemistry and finally onto physics at the bottom, is thought to be ultimately explicable in terms of the fundamental relationships present within this final discipline. That is, by way of reductionist principles, the entire subject matter of psychology is thought to be fully representable in the generalised laws of physics - and indeed this is considered to be our ultimate, if greatly distant, goal.

While such elemental disaggregation is undoubtedly useful to us on many occasions, the question of whether or not it can yield a full understanding and explanation of complex higher-order behaviours remains a widely contested issue. Indeed, it is commonly argued that often complex aggregations of simpler components exhibit the property of emergence, whereby, as a whole, the complex structure possesses qualities and characteristics that transcend those of its constituent parts. Thus, for example, it may be argued that the conglomeration of neural cells and tissues that together comprise the human brain, when functioning as a whole, give rise to qualities of the human mind that are irreducible to those of its component units.

We would not try to explain the power of people to think by reference to the cells that constitute them, as if cells possessed this power too. (Sayer, 1984, pp. 108-109)

The property of emergence may then be seen to effectively invalidate the reductionist programme. The notion that objects have emergent powers that are irreducible to their components further informs us that the world is not only differentiated, but also stratified. Indeed, the subject hierarchy outlined above represents a coarse gradation of the various stratum that are thought to exist within the world, and thus explains why each discipline expresses the degree of autonomy that it clearly does.

The most practical consequence of this stratification of the world is simply that objects can, and should, be understood at their own level/stratum, without necessarily requiring us to regress back through all their successive constituent strata. For example, social behaviour exists at a different strata to that of its constituent biological foundations. A "micro"/reductionist regress back into the biological constituents of a particular social action, though potentially useful, will not explain that person's meaningful behaviour for us - for meaningful action is an emergent power neither existing nor explicable at the stratum of biology. Potentially more useful would be a macro-regress considering the individual within the structures of the society in which the action takes place and in which meaning is constructed and reproduced.

Further, it should be noted that empiricism's commitment to this maladaptive brand of reductionist reasoning is strongly identified with its even more highly contentious promotion of quantification within social research. While this promotion is in fact the product of a highly integrated set of empiricist beliefs - this being one of the chief difficulties involved in clearly and concisely representing its inadequacies - reductionisms natural attraction towards quantification, or the reduction of complex behaviours and interactions into the precise and unambiguous language of mathematics, may be seen to promote a number of the inappropriate quantitative strategies currently evident within psychology.

The most readily apparent of these concern the common practice of quantifying social systems, or behaviours, seeking out correlations between different aspects, or

variables, evident within these systems, and then arranging the correlations derived in such a way as to try and "explain" the behaviours under investigation. The denial of stratification and the irreducible nature of emergent powers however, here encourages the production of correlatory evidence that takes no account of the various stratum upon which each of the variables may exist, and thus produces a proliferation of essentially meaningless correlatory data that serves no real purpose other than to confuse, rather than clarify, our understanding.

Even more fundamentally than this, however, is the fact that by ignoring the emergent properties of social phenomenon, reductionism actively encourages the widespread oversight, amongst empiricist researchers, of the many practical constraints that exist to the rampant quantification of the subject matter of psychology. For typically we find that social abstractions that capture some necessary aspect of social, or psychological, reality are rarely suitable for easy quantification or mathematical modelling. For example, even though Nicolas Georgescu-Roegen(1971) points out that for an object to be quantified it must, at its fundamentals, be qualitatively invariant across contexts - that is, that it must retain its essential character independently of the context in which it is placed at any point in time - we find that most researchers regularly quantify such qualitatively variable objects with very little appreciation of the problems this involves. Thus, context-dependent phenomenon such as opinions, attitudes and intelligence are regularly subjected to "measurement" upon interval scales to which they are ill-suited. Again, this practice is apparently due to the misguided belief that such quantitative disaggregation, or reduction, is not only legitimate, but the best means by which to understand such constructs.

### Humean Causation

This concept of additive understanding leads us onto our third, and final, defining characteristic of empiricist philosophy; this being its commitment to the Humean conception of causation. Humean causation may be seen to have developed out of two philosophical trends, the first involving philosophy's traditional difficulty in dealing

effectively with the structure of inductive logic, and secondly, from empiricism's commitment to "reductionist atomism".(Meikle,1979,p.138) The problem of induction may be thought of as representing our inability to validly infer from the fact that two events have always been conjoined in the past, that they will always be similarly conjoined in the future, solely on the basis of our past experience. The problem may be better illustrated by reference to the example of the Christmas turkey, who, having noticed that the rising sun is always associated with the arrival of the farmer bringing food, induces that the former causes the latter. The fallacy of such reasoning is however drawn into sharp focus for the animal when, on Christmas day, the farmer arrives carrying not food, but an axe! This then is said to represent the "big problem of induction"(Harrè & Madden,1975,pp.6,110); that is, that the world may, at any point in time, suddenly change completely from the way it presently behaves.

This "big problem" presents particular difficulties for the atomistic form of reductionism posited by empiricism. This is because its assertion which holds that all relations between atoms are contingent (in the same way that the relationship that existed between the sun rise and the farmer's behaviour was contingent), and that all other behaviour is merely the sum total of such atomistic relations, means that it follows that all the behaviours and events witnessed in the world are also contingent in nature. Thus, at any point in time, any regular relationship may cease to exist, from the sun rising in the morning, to the bus always being five minutes late.

In the atomistic framework...the 'big problem of induction' presents itself at every moment, not just as a threat but as an actuality...(Sayer,1984,p.142)

These concerns, then, basically reflect the issues represented within the Humean conception of causality, and the problems that the method it suggests attempts to resolve. At this level, empiricism asserts that the notion of "cause" as a productive, or generative, agent is entirely false. For although we may think that such causes exist, in actuality, all that we really observe is the constant conjunction of contingently related variables.

Lacking the concept of "cause" to pursue, it is then to the prediction and description of such "constant conjunctions" that empiricism actively attends. For given that we cannot causally explain a behaviour or system, then our best means of understanding it becomes one of simply describing and predicting its operation as it presently stands. Explanation is simply thought to refer to the generality of observed relationships. It involves the description of how widespread, or enduring, such relationships appear to be, rather than of why they (causally) exist. Under these terms, explanation and prediction are considered to be symmetrical, or equivalent, for to achieve one requires the achievement of the other. Consequently, the immediate goal of science, as our human mode of developing greater understanding, becomes the creation of "instrumentalist laws" (that is, predictive laws) that accurately describe the empirical regularities existing in the world of the order "*If 'A', then 'B'.*".

The problem of how such laws may be derived, given positivism's legitimate denial of inductive reasoning, is widely thought to be resolved by the enormously influential work Karl Popper, and in particular, his analysis of the role of deductive logic within social science. Unlike induction, deduction represents a valid form of inference; the conclusions of a deductive argument cannot be rejected without contradiction as long as the premises are accepted. By proposing that science is necessarily deductive in form, Popper believed that he had successfully circumvented inductivism's "big problem"; for the presence of regularities could now be established, or at least provisionally accepted (on the grounds that there existed no good reason to reject them), by reference to future, predictable events, rather than by reference to past events.

The deductive method advocated by Popper, termed Hypothetico-Deductivism (H-D method), proposes that scientists must establish theories, or hypotheses, from which testable predictions can be deduced. Such predictions are subsequentially empirically "tested" in order that their occurrence or non-occurrence may serve to indicate whether or not we can legitimately accept, or believe, the premises upon which these predictions were

based. Thus, the essential feature of this method lies in that it allows an important asymmetry to be established that does not exist for inductive inferences; this being, that while an affirmation of the test does not prove the premises to be correct, a denial, or falsification, does show them to be in some way incorrect. At the root of H-D method then lies a falsificationist procedure in which a theories "strength" is seen to be determined entirely by its inability to be falsified.

While elegant in its simplicity, and impenetrable within its internal logic, Popper's falsificationist methodology ultimately generates vicious paradoxes which significantly limits its final practicality. The most readily apparent of these being that, although based upon the metaphysical assumption of contingent "causation", actual falsifications are only of any lasting theoretical significance if we presuppose that some relations in the world are in fact necessary in nature. This is because there exists little value in falsifying some relationship today that we may equally "verify" tomorrow. The paradox this presents for Popper's falsificationist thesis is that in order to achieve its goal, it must accept what it originally wishes to deny. The "logic of science", unfortunately, cannot evade the problems that exist at the metaphysical level of necessity!

Equally, we should note that if our only means of evaluating theories is through their falsification, this leaves us with the situation where all theories are either falsified, or not yet falsified; and within this latter category, with no valid means of preferring one theory over another. Thus, we can have no more confidence in our most successful theories than we can in our newly generated, and as yet unfalsified, theories.

### The Scientific Status Of Empiricist Psychology

Given the foregoing account of empiricism's structure and associated difficulties, we may now return to examine more directly whether this philosophy represents, firstly, an adequate conceptualisation of the construct of "science", and secondly, whether by founding itself upon this philosophical tradition, psychology has successfully defined its current practice as being "scientific". Attending to the first of these questions, it should by

now be readily apparent that there exists significant, inherent weaknesses within empiricism's triad of founding epistemological assumptions - that is, within cartesian dualism, atomistic reductionism, and Humean causation - that make it highly problematic as a legitimate conceptualisation of "science". The reality of human existence is that all knowledge is the product of our subjective, conceptually negotiated, meaningful experiences; the world in which we live is stratified and thus only structurally, and not "explanatorily" reducible; and finally, given the two aforementioned features, that causation may clearly be conceived of as the productive, generative agent that our "common sense" informs us it is. While its denial of these truths has allowed empiricist thinking to create a formidable argument for the prejudicial privileging of its own exclusive brand of "scientific knowledge" - for who can deny the superiority of knowledge that claims to be absolutely rational, objective and "true"? - the foregoing analysis enables us to recognise that this strength is in fact derived exclusively from its proffering of a world view that simply does not exist. By conspiring to deny the actuality of our subjective existence, empiricism has merely acted to create a more conveniently structured, though essentially fictitious, picture of reality for its suggested methodology to understand. The clear consequence of this ontological misrepresentation is that as a philosophy, or scientific method, its adequacy for comprehending the reality of the world in which we do exist, is negligible.

The obvious conclusion to be drawn with reference to the second part of the question posed above, is that psychology, as a scientific discipline, cannot be established through an ascription to the ill-founded tenets of empiricist philosophy. Thus, the current practice of psychology is, by definition, not scientific. This, however, is not to deny the possibility of a scientific psychology, for if we accept the initial premise, that it is the philosophy which lies behind our overt methodologies that is what defines them as being scientific, then the potential for a more adaptive, or robust, philosophical alternative to this present conception of science still exists. We should, perhaps, further note at this point, that our initial premise also infers that the rejection of empiricist philosophy does not

necessarily make all the methodology empiricism advocates automatically redundant, for many of the strategies it proposes may still be intelligible within an alternative position. It is to the potential of such a position that we shall now turn.

## Realism

While many alternatives have been constructed to the attenuated world view formulated by empiricist thinking, including, for example, various extremes of relativism, linguistic theory, structural-materialist propositions, and so forth; the most promising school of thought thus far forwarded within contemporary philosophy of science is, I believe, that of Realism. Realist theory stands in sharp contrast to the muddled metaphysics of empiricism by clearly positing two key assumptions concerning the nature of the world and our relationship to it. The first of these represents realism's belief that there exists one, single, unified epistemology - this being that of the intersubjective - while the second assumption suggests that real, necessary causal structures and agents are contained within the independently present physical world in which we all live.

### The Intersubjective

By positing a non-dualistic, unified epistemological theory of knowledge, realism clearly confronts the often uncomfortable issue of the subjective nature of human experience. That is, that all human knowledge is bound within a subjective frame of interpretive meaning and understandings. How this position may be maintained without the common redress to relativism, solipsism, and "anti-science", may be demonstrated by an examination of the analysis realism forwards concerning the structures of human knowledge and their relationship to the material and social world.

At an ontological level, realism contends that the physical world is an independently present, real entity. If a tree falls in the forest and no-one is there to hear it, under these terms, it definitely does make a sound! Non-social objects and their behaviours, exist totally independently of our knowledge of them, they are completely



impervious to the meanings we attach to them, and thus, while they are socially defined, they are not socially produced. Definition and production are utterly different.

Taking this insight, it is further contended that, although our knowledge of this externally present world can only ever be gained through the imperfect processes of human perception and cognition, the practical limitations imposed upon us by the *necessary ways of behaving* of this external referent radically redefines the nature of this disjuncture between the material world and the world of thought, from that of the traditional, non-interactive, relativist interpretations of the past. For it is precisely because definition and production are different that not any definition of an object, or process, will suffice. If we wish to cross a body of water, we are not able to simply redefine the properties of water in order that we might then be able to walk across it. Rather, our definition, or understanding, of water, and of all other physical properties in the world, must in some way grasp the constraints that they place upon us. As Bhaskar(1979) notes, while the nature of objects does not determine the content of our knowledge, it does determine their cognitive and practical possibilities for us.(p.31) Consequently, understanding, or "truth", becomes a practical issue, and indeed, Sayer(1984), speaks of the "practical adequacy", or functionality, of knowledge.(p.62) The test of human knowledge thus becomes one of how well its conceptualisation enables us to operate within the practical constraints the "external" world imposes, and not (necessarily) of how accurately it maps, or reflects, this external structure in any "absolute" way.

Our conceptualization's then are based upon our consciously, interactive relationship with the commonly present world in which all humankind exists. Concepts of "truth" are founded upon pragmatic concerns, with practically adequate knowledge, such as "the world is round" being maintained, and practically inadequate concepts, such as "the world is flat", being dropped. Because such understandings are shared, and their practical adequacy publically available for all to examine/experience, systems of knowledge and understanding come to be negotiated between individuals. A commonality of

understanding is insured by the pragmatic foundations of knowledge to which we are all equally subject. Thus, as "subjective" understandings come to be shared, "intersubjective", negotiated frames of reference come to be established. Within contemporary society this intersubjective frame of reference refers to the extensive structures of communication - that is, verbal and non-verbal language - that exist independently of any single individual, but in which we are all constituted.

It is because of this that all human thought and understanding is not simply individuated, subjective and relativist in nature, as dualism would suppose, for all thought is bound within a shared conceptual framework of intersubjectively negotiated meanings. We cannot think, or conceive, of the world in a totally unique way, but only through the systems of meaning that are publically and "objectively" available to us all. In this way,  
 ...it is not the speaker who directly imparts *meaning* to his utterances, but the linguistic system as a whole which produces it.(my emphasis, Jefferson & Robey, 1982, p.95)

From this analysis, it should now also become clear that there in turn exists a fundamental difference between our understandings of the physical world, and those of the social world. For while, as outlined above, the meanings we impose upon the material structures of the world in no way affect their actual nature, in the case of social reality, the opposite is found to be true. While our understanding of the social is still constituted in our shared intersubjective frame of reference, and thus cannot be unilaterally or individually altered, the effects of its shared, collectively negotiated alterations are profound, for they actually change the nature of the object in question. Thus, if our intersubjective frame of reference were adjusted so that "sport" came to mean only, competitive swimming, then this is what "sport" would "be". If, however, it were intersubjectively agreed that the moon were made of green cheese, then the moon would still be comprised of whatever "astro-substance" it was before we altered our conceptualisation of it! Hence, whereas physical action is inherently meaningless, all human action is inherently meaningful. All

the actions we perform are imbued with pre-existing meanings, which, if we wish to understand the behaviour of others, must be understood. (Note, however, that as we typically share the same intersubjective system of meaning, this task is often no more problematic than simply asking the person being studied what his/her intentions and understandings were.)

The implications of this fundamental difference, in terms of realism's conception of the scientific study of these two differently structured phenomena, are profound. For whereas in the study of non-social objects there exists only one frame of meaning, that of the investigator, in the study of social objects, two frames of meaning must be considered. Firstly, that of the investigator's interpretations, and secondly, that of the actor's interpretations and intended meanings. Thus the physical sciences may be said to involve a single hermeneutic whereas the social sciences involve a double hermeneutic.

By traditionally treating the social world in a reified manner, such that its structures are considered to be as fixed and rigidly independent as those of the physical world, our current "scientific" method has marginalised the importance of the double hermeneutic, and thus, the meanings and intentions of the individuals it seeks to understand. By recognising the importance of such intentionality, realism critically informs current method as to the need for greater qualitative understandings, in which the meaning of social actions are given at least equal prominence as other causal aspects of the context.

Note that this realist denial of reification has been of particular significance in the growth of emancipatory "critical theory", in which the objective of study is not to develop a "stock of knowledge" about an object or societal structure, but rather to examine its roots in the intersubjective understandings that maintain it, and that may ultimately *change* it.

### Generative Causation

Just as this initial epistemological assumption may be seen to have lead realist philosophy onto a series of further opposing positions to those of empiricist theory and method, the same is also true with regards to the second of its key assumptions, that of

generative causation. While this notion is not entirely new, indeed it was the problems inherent within its inductive use that initially prompted empiricism's ineffectual adoption of the notion of contingent causation, realism has radically reconceived of this construct in an innovative and insightful way.

Previously, the concept of productive, or generative cause was thought to refer to nothing more than the intimate relationship present between a cause and its effects, such that "*If 'A' caused 'B'*", then we could equally express this relationship as "*If 'B', then 'A'*". That is, cause and effect were thought to be directly related in what may be termed an "essentialist" fashion. Realism's departure from this traditional, and problematic, conceptualisation lies in that it states, in the case of the scenario presented above for example, that we may equally say, "*If not 'B', then 'A'*", for it wholly denies that a cause and its consequent effects are in any way directly, or necessarily, related.

Within realist thinking, "cause" is considered to refer to an attribute, rather than to an event. To speak of cause is to refer to the mechanism that produced a particular effect, not the effect itself. Thus, cause and causation, refer to the structure of objects by which they hold particular causal attributes - sometimes referred to as "causal powers and liabilities" (Sayer, 1984, p.94) - as opposed to their actualisation on any particular occasion. The rationale behind realism's denial of the existence of necessity in the relationship between cause and effect is, under these terms, easily explicable; for although an object may hold certain causal powers and liabilities necessarily, by virtue of its structure, whether or not such causal attributes will be elicited on any particular occasion, is a function of the contingent contextual environment in which it is placed. Thus, while wood necessarily possesses the causal power to float, by virtue of the relative density of its structure, whether or not it expresses this causal potential on any particular occasion is entirely dependent upon the the current contingent context in which it is placed - in this case, upon the presence of water.

These points may be more clearly illustrated by reference to the schematic portrayal of causation produced by Sayer(1984) and reproduced, in a slightly modified form, below in Figure 1.

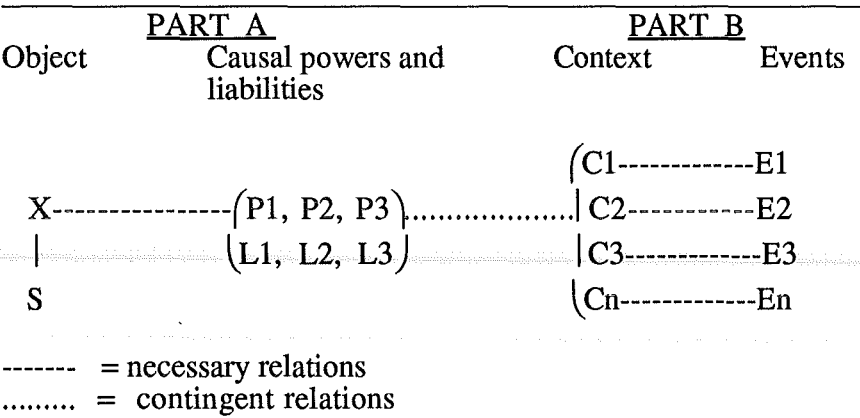


Figure 1 *The structure of causal explanation.*

Part A of the diagram represents an object, 'X', which is shown to have an underlying structure, 'S'. It is this structure that is in turn believed to necessarily give rise to the variety of causal powers and liabilities, 'P1, P2,...', that (although only sometimes exhibited) the object always possesses. Part B, by contrast, represents the infinite number of contextual configurations, 'C1-Cn', in which 'X' could be positioned at any given time, and then, the resultant, necessary effects, 'E1-En', that would be incurred in each of these contexts. It is in the fact that Part A and Part B are only contingently related that crucially defines realism's unique perspective upon the causal process. The implications of this insight upon the methods and objectives it subsequently proposes are appropriate for "science" are manifold; particularly so in the case of the social sciences in which meaning, and the impact of the double hemeneutic, must also be considered.

Realist Conception Of Science

By focusing attention onto the object, rather than the event it contingently produces, realism is able to redefine the goal of "science" from that of predicting related effects in the world, to that of explaining how the structure of objects are capable of

producing the effects witnessed. Thus, by acknowledging the existence of a highly distinctive mix of both necessary and contingent relations within the structure of causation, realism significantly distinguishes between the predictive and explanatory goals of science.

While prediction may be seen to be useful within certain contexts, realism, and realist scientific method, posit that our primary focus of attention should be directed upon the construction of non-predictive, causal explanations. Although predictive penetration has historically been considered the hallmark of adequate theory, realism's demonstration of the asymmetrical, non-equivalent nature of prediction and explanation redirects our theoretical emphasis toward the uncovering of the productive structures that an object necessarily possesses, and then, only subsequently, to a consideration of how such structures may be actualised within any particular context.

Central to realist method, then, is the belief that abstract and empirical research represent two fundamentally different modes of inquiry, with different strategies being appropriate for each, and different aspects of "reality" being explained by each. Within the realm of abstract research, which aims to uncover, or construct, pragmatically accurate portrayals of the generative structures within the world, "theory" assumes a greatly expanded and significant role from that of its previous empiricist conceptualization's. For whereas it was previously seen to be merely representative of the "ordering frameworks"(Lyons,1981,p.78) for our observations, or of quantitative redescriptions of predictable relationships; within the realist paradigm, theory comes to involve the rational positing of unobservable causal mechanisms, or existential hypotheses, which are believed to exist within the structure of the object under investigation. Such causal mechanisms are thought to be capable of explaining the causal potentials and liabilities that an object exhibits. This method of abstract theoretical construction primarily involves the use of grounded, retroductive inference. That is, it involves the process of inferring on the basis of other known structures, the existence of unobservable causal entities. Such postulated causal entities are then said to be "grounded" if we are able to adequately explain, even

metaphorically, how their proposed structure is capable of enabling the causal attributes that we have inscribed to it.

We may, then, also note here the place of experimentation within the theory, or model building stages of conceptual understanding. By enabling the achievement of at least quasi-closure; that is the elimination of other interfering causal structures from the contingent context, experimentation enables the functioning of causal mechanisms to be more easily and unproblematically observed, and thus, facilitates the retroduction of their constituent structural nature. While the role of experiments within the realist research programme is radically altered from that of its employment within empiricism, its logic remains essentially the same. For the nature of the world determines that the methods of experimental control remain intelligible and sensible for both realism and empiricism.

Once concepts of causal structures have been developed, via experimentation and retroduction, the methodological question that remains to be answered concerns how we may validly test such theoretical propositions. Clearly, predictive tests may be seen as inadequate; firstly because if the predicted event(s) fail to occur it could simply be due to the presence of an inappropriate context, and secondly, because if the predicted event does occur, then we cannot be certain that this result was due to our hypothesized causal structure and not some other, unknown, causal structure. Causal explanations, then, need to be subjected to explanatory test; that is, evaluation of the proposed structures and mechanisms of the object within Part 'A' of Figure 1, as opposed to their effects in Part 'B'. As the properties under this heading are not necessarily unobservable, or otherwise inaccessible, this may be no more problematic than simply observing, under suitable conditions, if they operate in the manner proposed. Otherwise, structural analysis and appraisal may be necessary to assess the theory's validity. Note however, that our "internal access" through practice and socialisation to many of the structures and mechanisms, reasons and beliefs, of our own society are also valid forms of independent (intersubjective) evaluation of the proposed causal explanations.

While the concept of causal explanation and evaluation involves the analysis of the causal structure of the object, that is, of Part 'A' of Figure 1, realism is equally concerned with the subsequent realisation of this structure within the contingent contexts represented by Part 'B' of Figure 1. Thus, while realist theory invokes its strongest claims at the abstract level of hypothesized structures and mechanisms, such claims cannot be directly employed to explain instances of empirical behaviour at the level of concrete reality. Instead, this requires further empirical research into the exact nature of the context in which the object is operating. The practice of abstract causal explanation and of empirical causal explanation are thus very different. Applied, or empirical, research requires a more extensive range of knowledge at any point in time - that is, knowledge of the contingent context and the presence of countervailing and/or complimentary causal mechanisms contained therein - and is thus, founded upon methods of interpretation and synthesis, as opposed to those of abstraction, experimentation and retroduction. The implications of the existence of these two different modes of enquiry, suggested by the philosophy of realism, and the exact nature of the methodologies appropriate for each, will be considered more fully during the later examination of realism's potential role in the unsettled concrete realm of sport psychology.

While realism offers significant, and even dramatic, advancements upon the conception of science offered by empiricist philosophy, in particular through its acknowledgement of the varied nature of scientific practice, and its consequent legitimization of various modes of "scientific" research, more recently, certain European inspired developments in the theory of knowledge have come to question some of realism's essentially structuralist foundations. Consequently, it is to an examination of the adequacy of such critiques, and an evaluation of the potential benefit that such alternative insights may offer our mode of inquiry, that I shall now turn.



## Poststructuralism

In recent years, philosophical discourse has continued to focus upon the question of the construction of knowledge and the creation of academic disciplines and methods. As we have already seen, empiricism and realism are two distinct visions of this highly contentious question. Following the translation of a variety of important European discussions concerning knowledge, there appears to be yet another sometimes compelling, if complex, voice contributing to this debate; that of poststructural theory. While, as I have suggested above, psychology and the wider realm of philosophical discourse seem, at present to be best served by the tenets of realist theory, nonetheless, it would appear to be a futile and redundant opinion to posit that realism is the sole saviour of the discipline. Indeed, although poststructuralist thought does not, as I see it, offer a view which is wholly useful or even relevant to psychology, it is, I believe, important to recognise and explore the challenges that it may hope to offer this discussion. In this way, it would seem that realism, an essentially Anglo-American structure of ideas, might hope to continue to evolve and develop using, and perhaps exploring and discarding, the alternative views of European scholarship. As our discussion of empiricism suggests, philosophical inquiry cannot advance from within the strictures of a vacuum, and this is no less true for realism. It is for this reason that an exploration of poststructural theory seems pertinent, and particularly so considering that the wider psychological field, notorious for its lack of acknowledgement of any alternatives to empiricism, has totally failed to even hint at the existence of this new and often radical view of knowledge and discipline.

As its name suggests, poststructuralism arose out of, and perhaps as a critique of the preceding theories of structuralism. In terms of chronology, these movements may be seen as beginning during the mid-1950s, when the writings of linguist Ferdinand de Saussure came to the attention of European academics, and continuing into the present day. Obviously then, structuralism must be considered as the foundations upon which the

central tenets of poststructuralism, our central concern here, have been built. It is for this reason that a brief discussion of these founding notions seems necessary.

Jean-Marie Benoist, in the title of a book on structuralism, describes it as a revolution - La Revolution Structural, and perhaps it is this aspect of the theory that is most interesting to us. The revolutionary aspect of structuralism is demonstrated, beyond the bare bones of discourse, in the fact that it evolved outside mainstream universities in marginal academic institutions, and that it reached its peak during the time of the French student rebellions of 1968. Primarily, however, structuralism's aims were not purely political. The revolutionary nature of this theory, it seems, is found in the idea that it can be adopted only as an alternative to the traditional tools of academic habits. Like realism, it cannot be picked out as a handy, extra methodological tool as the occasion suits, but rather, requires a change in traditional approaches to academic thought and research. But what must finally be considered as structuralism's most revolutionary aspect is the importance that it attributes to language: not only is language a major preoccupation of structuralist thinking, but language itself is used as a model for all manner of non-linguistic institutions.

### Saussure - The Importance Of Language

Structuralism's and poststructuralism's pivotal interest in the ways in which language works are founded upon the theses posited by Swiss philologist and linguist Ferdinand de Saussure, which in themselves constitute a radical departure from traditional assumptions regarding language. In essence, Saussure suggests that all activity - all social and cultural life - is governed by a system of signs which are either linguistic, or analogous to those of language. He proposes that languages are systems, constituted by signs that are arbitrary and differential. For Saussure, a sign is made up of the union of two elements, a sound-image or a written-image, and a concept; or a signifier and a signified. For example, the sound 'tree' that one hears or sees in speech or writing is the signifier, to which there corresponds a signified 'tree' in the sense of the concept which that sound or writing evokes in the mind of the auditor or reader. Using Saussure's suggestions that signs are

both arbitrary and differential, we see that firstly, the association of a signifier 'tree' with a signified 'tree' is fundamentally the product of linguistic convention, not a natural link, and secondly, that there is no natural or necessary relationship between the sign as a whole and the reality to which it may refer.

Furthermore, Saussure, by extension, is suggesting that there is an essential disjuncture between the world of reality and the world of language/signs. Words, under this view, articulate our experience of things, they do not simply express or reflect this experience. Indeed, it seems that words give form to what, without language would be a chaotic and undifferentiated jumble of ideas.

French structuralist thought, applied as it has been to a wide range of disciplines, is founded upon Saussure's insight that all social and cultural behaviour has its basis in semiology - or the science of signs. The work of anthropologist Claude Levi-Strauss, for example, uses Saussure's assumptions of the nature of human behaviour and, in doing so, goes some way to avoiding some of the positivist traps to which anthropology as a discipline seems dangerously open. Rather than merely recording and reporting a plethora of observable facts and figures, Levi-Strauss, in Structural Anthropology, approaches such diverse areas of inquiry as kinship systems or cooking as if they were systems structured in the same way as a language. This approach suggests that any elements which the observer may note, only have meaning in so far as they are part of a wider system. Under these terms, as Levi-Strauss demonstrates, it is the job of the anthropologist to map out this system and to define what may be described as the syntax or grammar of the various cultures or ethnic groups encountered.

Again, as Saussure originally suggested, this method of observation and investigation is not the exclusive domain of such areas of inquiry as linguistics or anthropology, but rather is a means of approaching any number of diverse academic disciplines. Indeed, if culture is, as a later structuralist Roland Barthes says, "...in all its aspects...a language..."(Barthes,1972,p.15), then culture may be approached, above and

beyond the boundaries of traditional discourse, using the investigative tools that structuralism provides. This in itself may be a notion from which the discipline of psychology, at this point unreceptive to, and largely ignorant of the developments of structuralist thought, could perhaps benefit.

### The Production Of Meaning - A Critique Of Structuralism

If, as French structuralism asserts, culture and social behaviour of all kinds are structured like a language, it would seem a pertinent question to ask how meaning and intersubjective understanding may be produced within this linguistically determined realm. And indeed, it is to this question that many of poststructuralism's exponents have addressed themselves. Most dominant of these theorists is French academic Jacques Derrida who is one of the most influential participants in this arena of theoretical inquiry. Although Derrida's interests are clearly more far-reaching than those of the structuralist framework, it is important to note that Derrida still considers this framework as crucial to philosophical discussion. Indeed, as he writes in Writing and Difference, we are still within the boundaries of structuralism in so far as structuralism suggests "an adventure of vision, a conversion in the way of putting questions to any object." (Derrida, 1978, p.3)

If structuralism is an "adventure of vision", Derrida, by contrast is quick to point out its blindspots. While, as Benoit suggested, structuralism began as a revolution with its twin assertions that everything is structured like a language, and that the world of words creates the world of things, Derrida says that as a methodological tool, it has been hijacked by the interests of conservatism and now seems to support the very concepts that Saussure had hoped to undermine. In particular, Derrida points out that structuralism continues to return us to instances of teleological thought, in which textural structures are uncovered by the insightful reader/researcher to reveal the hidden 'truth' or meaning of the text in question. Thus, under these terms, meaning is an already existing presence just waiting to be excavated by the discerning inquirer.

For Derrida, this approach not only undermines Saussure's original insight that the world of words and the world of things are essentially disjunct, but it also imposes a metaphysical element on structuralism which is clearly not viable in terms of the politics of such a disjuncture. More sinisterly, however, it sets in place a strategy of hierarchy. Certainly, as we see in the work of earlier structuralists, definite dualistic structures were present in their thought which often went as far as to suggest that meaning is produced precisely through the logic of a binary system. Thus in the opposition masculine/feminine, for example, each term only receives its significance through its structural relationship to the other: 'masculine' would be meaningless without the direct and natural opposite 'feminine' and vice versa. In this view, all meaning is produced in terms of an object's relationship to its binary opposite. Clearly, as Derrida often points out, binary logic cannot avoid the kinds of difficulties that Saussure had hoped to refute with his discussions of language systems. Binary logic not only establishes and maintains a situation whereby an element may be placed in a position of privilege over another, but also appears to suggest that, contrary to Saussure's argument, objects and concepts contain essential and determinable meanings which directly relate to their linguistic signs.

For Derrida, however, meaning is not produced in the static closure of binary oppositions, rather, it is achieved through what he calls the free play of signification. One way of illustrating Derrida's argument at this point is to look at Saussure's concept of the phoneme - defined as the smallest differential - and therefore signifying- unit in language. The phoneme can in no way be said to achieve signification through binary opposition alone. In itself the phoneme /b/ does not signify anything at all. If we had only one phoneme, there would be no meaning and no language. /b/ only signifies in so far as it is perceived to be different from say /k/ or /h/. Thus /bat/:/kat/:/hat/ are all perceived to be different words with different meanings in English. The argument is that /b/ signifies only through a process that effectively defers its meaning on to other differential elements in language. In a sense, it is the other phonemes that enable us to determine the meaning of

/b/. For Derrida, signification is produced precisely through this kind of open-ended play between the presence of one signifier and the absence of others.

This notion, then, is the basic significance of the Derridean term différance. Spelt with an 'a' to distinguish it - in writing not in speech - from the normal French word for difference (difference), it acquires a sense of action with the -ance ending in French, and can therefore be translated both as 'difference' and 'deferral' in English. As Saussure's model showed us, the interplay between present and absent signifiers that produces meaning is posited as one of deferral: meaning is never truly present in any metaphysical or metatextual way, but is only constructed through the potentially endless process of inter-reference to other absent signifiers. Thus a signifier can be said to give meaning to another, however, at no point can this process reach a point of teleological aporia. In Derridean terms, there is no "transcendental signified", where the process of deferral could finish. Such a transcendental signified would have to be meaningful in itself, fully present to itself, requiring no origin or end other than itself. An obvious example of a transcendental signified, in this sense, would be the Christian God- the alpha and omega, the originator and ender of the world.

Like realist theory, Derrida's notion of différance challenges the assumptions of traditional scientific endeavour. Indeed, empirical science, as a cornerstone of western thought, has found itself one of the most obvious targets of Derrida's deconstructions. Derridean theory and poststructuralism at large, criticises this kind of science for its constant claims to self-presence; for its espousal of objectivity and suggestions that, given the 'correct' procedures of research, traditional scientific inquiry can lead logically to a moment of enlightenment or truth. On the other hand, however, there is much in poststructural discourse that realism would wish to refute. For, while Derrida and others suggest that the external world is always deferred along an endless chain of signification, and thus cannot be said to exist in any 'real' way, realism, as we have seen, definitely posits the existence of an external, physical world. For realism, that distinction between a

reality which, although attainable only through language, exists independently of human behaviour, and poststructuralism's belief that the world of language constructs the world of things, is crucial. For if, as poststructural theory suggests, the existence of physical externalities is largely doubtful, then, in realist terms, poststructuralism seems to collapse towards a position of relativism and solipsism, the difficulties of which, for the purposes of science or research, are self-evident.

### Poststructuralism And Realism

While this underlying disjuncture between the understandings of external reality and the production of meaning clearly place the projects of realism and poststructuralism essentially at odds, nonetheless, it is possible, I believe, to see some potential for the development and investigation of some of poststructuralism's notions within a realist framework, without the disturbance of any of realism's central tenets. For, just as we discussed above, while realism ultimately rejected the goals and assertions of empiricism, it was still able to retain a number of its methodological procedures, for example, those associated with experimental closure. In a similar fashion, some of poststructuralism's views of research or critical inquiry can perhaps be appropriated, again, without endangering the wider aims of realism.

An example of this appropriative potential of the poststructural project seems to me to lie in its 'deconstructive' nature. As Derrida and others suggest, western thought is largely based upon claims of metaphysical presence or authenticity constituted by a belief that some 'truth' or 'reality' has been pierced, presented and understood. A deconstructive approach to such claims would be to examine exactly upon what grounds truth or reality, even at the pragmatic level, is being postulated, and attempt to foreground the hierarchical operations within the discourse in question. As we have seen, this was Derrida's approach in his critique of binary thought, and it is an approach that has also been taken up by other theorists interested in the political implications of disturbing the constructions of hierarchy.

Similarly, this is an approach which may be of benefit to the theories of realism, particularly with regard to the problematic area of self-critique. A deconstructive examination of, for example, the realist project of model-building could perhaps reveal some ideologies at work within these models that, at the unconscious level, may be operating to construct or privilege positions of power; in short, to build hierarchies. Deconstruction, in this sense, may have strong implications for realism's approaches to the always problematic areas of race, gender and class.

In the case of all the philosophical systems previously discussed, the enormous power of each to shape the direction of our research methods, topics and disciplinary structure as a whole, have been referred to only in the abstract. In order that the revolutionary nature of the impact that gross philosophical adjustments can have upon empirical practice may be more fully exposed - and also due to an inherent interest in the subject matter - what follows is an attempt to examine what effects, firstly, an ascription to empiricist philosophy has had upon the of realm of sport psychology, and subsequently, what effects and potential benefits a shift to realism may hold for this discipline.



## SECTION TWO

---

Psychology As A Product Of Philosophy:

The Example Of Sport Psychology

## Overview: History as a Product of Philosophy

Professional sport isn't about Physical sport anymore, its about coping with Pressure, and people are turning to Psychology to give them the edge.

- i.D. Magazine, October 1990.

The greatest challenge to have faced sport psychology over the course of the past 10 to 15 years has been the need to confront and attempt to resolve the various problems that athletes in the field have increasingly presented to it. The astonishing growth of research and knowledge in the areas of physiology, bio-mechanics and ergonomics over this same time span have so dramatically impacted upon sport as to have prompted many leading commentators to conclude that for the most part, professional athletes who share similar equipment, training schedules, diets, build-up and "peaking" procedures are, physiologically speaking, virtually inseparable. In terms of their fitness, strength and physical capacities, these athletes compare as being almost equivalent. Given these kinds of conclusions then, the burning question concerning people both within and outside the field of sport is exactly what is it that makes one athlete a winner and another a loser? It is this question that the multi-million dollar sports industry has taken to sport psychology in the hope of an answer.

The response to date however, has proven to be of much greater importance to the structure of sport psychology as a discipline, than it has to the performance of athletes on the field. While the various pressures exerted by the external demands of the wider sports community resulted, initially, in a flourish of activity and interest by sport psychologists into the resolution of those pragmatic concerns voiced by athletes, this rush of enthusiasm eventually gave way to increasing levels of internal conflict as the structures of the academic discipline proved incapable of effectively responding to the demands of the pressures being placed upon it. Unable to realise the kinds of successes that were being evidenced elsewhere, this conflict and frustration finally culminated in the single most dramatic development of the movement to date. This being the fracturing, or schism, of the

discipline into two distinct, and often acrimonious, schools of thought known respectively as academic sport psychology and applied sport psychology.

### Academic Sport Psychology - Empiricism Critiqued

In general, the academic branch of sport psychology is associated with the use of orthodox scientific procedures as a means of achieving a valid and reliable understanding of the behaviour(s) in question. This may often take the form of an abstracted element of the behaviour being studied within an experimental setting. By contrast, the applied school of thought is characterised by a desire to focus upon the improvement of an athlete's performance within the sporting context, and a willingness to employ any method or technique available to achieve this goal. In this sense, the emphasis of this branch of research has been less upon the achievement of scientific respectability and credibility, and more upon the attainment of practical success(es).

Such an abandonment of the rules of orthodox science for reasons of practical efficacy however, have not sat well with the academic sports community. Indeed, for the most part they have reacted to the prodigious growth of the applied movement, from the time of its turbulent inception to the present, with open hostility. Repeatedly they have voiced their concerns as to the apparent lack of any coherent methodological structure, the wholesale appropriation of theories and therapies from mainstream psychology - which they perceive to be "blindly" implemented in the absence of any data to suggest their suitability - the lack of any systematic programme for evaluating the effectiveness of the therapies employed, and finally, the growth of a "non-scientific attitude that is [truly] frightening." (Landers, 1989, p. 477)

Although many salient criticisms exist in all of the areas listed above, it is unquestionably within the final issue, within the hazy realm of "unscientific-ness", that academic sport psychology finds itself most unified and vehement in its condemnation of the applied movement. Its primary concern for "service delivery" has revealed applied sport psychology to be a willing recipient of theories and methods that originate from a

wide variety of knowledge sources, including those "unlegitimated" spheres of knowledge that exist outside of the narrowly defined doctrines of orthodox science. For academic sport psychology, this willingness to move beyond the boundaries of legitimate science is seen as tantamount to opening the floodgates to that uncontrollable torrent of invalid, detrimental "psuedo-knowledge" that scientists have for so long sought to exclude from their arena. That is, to those areas of knowledge based upon introspective methods, experiential analysis and so-called "common-sense".

Interestingly however, given the depth of feeling regarding this issue, nowhere does there exist within the academic sports literature any attempt at theoretically, or philosophically, demonstrating the exact ways in which such strategies are inferior to those of orthodox science. Unanimously authors have felt no compulsion to justify why their approach is superior to the alternatives they are condemning. Such blatant dogmatism effectively demonstrates the academic community's seemingly total, and unquestioning, indoctrination in the twin beliefs of orthodox science as sacrosanct, and the consequent existence of an inherent link between science and academic respectability. The existence of such dogma must then cast at least some initial doubt upon the validity of much of this past criticism. For under terms whereby any behavioural discipline found to be operating without the legitimating stamp of "science" automatically loses its claim to credibility, little can be expected in the way of constructive debate. Consequently the issue that academic sport psychology has long supposed closed, that is, the issue of whether the removal of orthodox scientific method from sport psychology necessarily threatens the legitimate progression of knowledge, or even more fundamentally, whether it destroys the discipline, in fact remains very much open.

Unsurprisingly, the reaction of applied practitioners to this barrage of predominantly unsubstantiated rhetoric has been largely dismissive. Given the general absence of supportive analysis, they have been ostensibly "underwhelmed" by the earnest protestations of their academic detractors. Indeed, many have construed such criticisms as

a validation of the appropriateness of the alternative course they have chosen. For ironically, while the abandonment of orthodox rules and systems for attaining reliable knowledge remains a heretical and sacrilegious act for academics, it is widely viewed by adherents of the applied school as nothing less than emancipatory; as a liberation from the shackles imposed by the stringent doctrines of orthodox science. The doctrines which they claim bond academic sport psychology to the production of largely irrelevant and esoteric knowledge.

Applied sport psychology, by no longer placing itself in a position of subservience to the needs of orthodox scientific method, perceives itself to be achieving at least two key "emancipatory" functions. Firstly, a non-orthodox stance is seen to effectively break the historically "exploitational" relationship that has traditionally existed between sport and mainstream psychology; a relationship in which the sports arena has served primarily as a testing ground for the furtherment of mainstream theories. This historical dynamic, it is claimed, has ultimately fostered a general disinterest in the real issues of sport in favour of the abstract concerns of general psychological theory. And secondly, and certainly most potently, it is considered to be the only effective means of providing the necessary freedom required to allow a concentrated attack upon the practical issues that are of most concern to sporting interests.

The historical hierarchy outlined above, in which sport psychology has acted as the lesser element within the context of mainstream theory, when coupled with the apparently oblique, or at best highly abstracted, relevance of much academic (laboratory based) research to the real issues of the sporting community, may then be seen as representing the forces that initially drew applied sport psychologists "counter-criticism" of the academic community: this being that they are effectively slaves to their method. The accusation however is of more than mere historical relevance. Many contemporary investigations indicate that academic sport research continues to be driven more by a need to discover those abstract questions that prove easily amenable to their orthodox methodology, than by

a desire to discover real answers to practical problems. Furthermore, it is widely noted within applied circles, that the "answers" academic researchers have thus far ventured, even to the "incidental" topics of investigation with which they have concerned themselves, have proven to be of little relevance to the world beyond the four walls of the laboratory from whence they came. The

unique, controlled, and artificial environments [used] to observe people....in turn produce artificial, contrived behaviour unique to the environment...created.

(Martens,1987,p.31)

That is, criticism now is roundly levelled at the long-standing inability of orthodox scientific method to achieve high degrees of external validity within open system (social) contexts.

Thus, while dissatisfaction with academic sport psychology has stemmed, initially at least, from a heightened sense of practical frustration with its predominant concerns for mainstream psychological theory, methodological "correctness" and an inability to achieve pragmatically relevant results, increasingly this frustration has resulted in a more fundamental questioning of the philosophical underpinning's upon which such orthodox approaches are based; that is, of the sacrosanct scriptures of neopositivist social science.

Among the most articulate of those making such criticisms in this area is the outspoken sport psychologist Rainer Martens. Since the late '70's he has continued to question the appropriateness of many of orthodox science's most central tenets to the study of human sports behaviour. At the heart of Martens' criticisms have been his examinations of firstly, the orthodox touchstone of objectivism, or more broadly, the dualistic epistemology that it commonly espouses. And secondly, the ontological commitment to the theory of reductionism that is evidenced throughout most academic research. Not only are these factors seen to diminish the practical relevance of much academic study, but further, Martens contends, they actually represent wholly inadequate philosophical understandings

of the nature of the social world and of the type of methodology that is appropriate for further uncovering this nature.

Primarily through the work of Michael Polanyi, whose generally Realist discourses are broadly similar to those outlined earlier, Martens has demonstrated the fallacy of the notion of objectivism by pointing to the erroneous assumptions of "pre-interpreted givens", or the "sensate" as separable and independently meaningful from "perception", upon which this notion is based. Similarly, he disputes the commonly associated "true - false", "significant - insignificant" dualisms that permeate empiricist philosophy. Noting that as our knowledge may never fully escape the supposedly self-serving vagaries of human cognition, in order to "roam free" upon the legitimating soil of objectivism, it follows that we are in fact, never in a position to truly know whether our perceptions of the external world actually correspond to its reality. In this sense, our knowledge of the world can never be fully validated, or conversely, falsified. Thus, the absolutist notions posited within objectivist reasoning cannot be legitimately maintained. Instead, Martens proposes that human inter-subjective knowledge must be seen to exist upon a continuum of reliability:

..knowledge is more or less reliable, but...it is still knowledge as long as its probability of being correct is greater than chance.(Martens,1987,p.45)

The intention here is, of course, not to merely show the weaknesses of the empiricist philosophical tradition, but to also demonstrate the ways in which the unjustified privileging of such concepts has directly limited the potential effectiveness of much academic research. Clearly, academia's persistent employment of assessment procedures that aim to preclude the use, or deny the validity, of all knowledge that is found to be "statistically insignificant" or "subjective" is a prime example of this limitation. By regarding such arbitrary, and philosophically dubious, criteria as the sole means of legitimate evaluation, academic sport psychology robs itself of many of its richest and most vital knowledge sources. The continued denigration of experiential knowledge, as both a

valid medium for systematic research and criterion for research evaluation, upon such clearly unsustainable grounds, leaves orthodox methodology hamstrung, unable to effectively venture beyond the sterile and controlled environment of the experimental laboratory.

Contributing equally to the creation of such "isolationism" is, as Martens' second major criticism of orthodox science suggests, its commitment to reductionism as the most appropriate means of understanding the world, or more specifically, the psychology of sport. The goal of such a strategy is, ultimately, to achieve an explanation of the complex intricacies of human (sports) behaviour in terms of the lawful interaction of sub-atomic particles. Unlike many strange sounding scientific ideals, however, this one is, I believe, as implausible as it initially sounds.

The main assumption behind the strategy of reductionism is that an object is fully explicable in terms of the combined knowledge of its constituent parts. Unfortunately however, elemental disaggregation seldom yields a full comprehension of the powers and attributes an object displays. Indeed, an exhaustive study of the volatile substances of hydrogen and oxygen would hardly suggest that in a certain combination the two would emerge with the ability to extinguish fire! Such simple additive, or linear, conceptions of the world's structure blatantly ignore the fact that its obviously stratified and interactive nature is inherently irreducible. Thus, if we wish to examine the potentials of water, while a knowledge of its constituent parts is obviously useful, ultimately our main focus of study must be upon water. To direct our attention elsewhere is to risk failing to capture the essence of the object we are attempting to understand. In short then, an object must be understood "*at its own level*." (my emphasis; Sayer, 1984, p. 111)

### Applied Sport Psychology: The Loss Of Theory

Ignorance of this maxim and the consequent diversion of much academic research energy away from the study and explanation of the full dynamics of sports behaviour, to an



obsession with the discovery and prediction of those "regular relationships" which may be found to exist between its more "basic constituents", is what Martens considers to be the most "practical" danger of the reductionist philosophy currently operating. To illustrate the power of this near obsession, Martens points to the continued compulsion of academic researchers investigating the relationships between sports anxiety and performance, to seek out "positive correlations" between, supposedly, fundamental physiological variables, and consequent self-report/performance variables, despite the existence of "considerable evidence to suggest that physiological variables are [in fact] poor predictors of anxiety states." (Martens, 1987, p. 44) Although many researchers readily acknowledge the limitations, if not the error, of such reductionist strategies - which commonly assume the existence of unproblematic, non-interactive, additive relationships between the assorted variables under consideration - most persist with their employment because it is all they know. As Maslow (1966) observed, "It is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail." (pp. 15-16)

This ignorance of valid alternatives, however, is not the exclusive domain of the academic community. For while the pragmatic complaints and philosophical critiques of applied sport psychologists have served to debunk much of the widely propagated mythology associated with the common perception of orthodox method as a "super-human" power; that is, a power imbued with the ability to transcend the "illusions" and frailties of human consciousness in order to establish the definitive version of "truth, justice, and the sporting way", such critiques have not provided a legitimating foundation for much of the research methodology that applied practitioners have enacted in its place. That is, rejection of this opposing view has not fully validated their own position. Indeed, there remain several major problem areas inherent within the broad range of approaches that are commonly utilised by applied sport psychology.

Of most fundamental concern is undoubtedly the growth of a manifestly non-evaluative and non-analytical stance amongst the applied research community. The origins

of this maladaptive attitude may, I believe, be isolated to two largely unrelated aspects of the applied school's recent historical development. The first of these involves the widespread miscomprehension, by applied practitioners, of the implications that may be validly drawn from the earlier critiques made of orthodox method. For the consequent rejection of this method has been (falsely) interpreted by many as sanctioning the adoption of a more generally "non-methodological" and "non-systematic" approach in its place. The introduction of alternative methodologies being largely ignored.

Compounding this situation has been the action of the second contributing factor, which involves the "motivating dynamics" of the applied discipline itself. As applied research is driven almost exclusively by "financial" considerations - that is, by attempts to meet the needs, or resolve the problems, presented to it by athletes and other clients in return for payment - there has developed a corresponding disinterest in the more strictly defined "research", or "theoretical", considerations that typically command systematic investigation and evaluation. Together these two forces have produced the situation in which the only validation a theory, or therapy, requires in order to demonstrate some "legitimate" effectiveness, for applied practitioners, is that it "appears" to work. For clearly, if all evaluative method is considered to be ultimately flawed and arbitrary in nature, and financial/client demands are able to be fully satisfied by the appearance of some positive effect, then the seductive power of such a simplistic criteria becomes readily apparent.

Beyond such immediate evaluative limitations, however, this methodologically lackadaisical attitude underlies a concurrent development, within the applied discipline, of a more general circumscription in the relationship existing between itself and theory. This narrowing of concern being most clearly evident with regard to their involvement, firstly, with theory construction and, secondly, in their increasingly attenuated conception of what adequate theory actually is.

Dealing with the first issue of theory construction, while it is clear that this activity was never considered to be the prime objective of applied research, there remained a widely held belief, amongst applied practitioners, that the freedoms achieved through their dismissal of orthodox method to attack the practical issues that are of most concern to sport would somehow naturally "flow on" towards the construction of their own pragmatically generated theoretical understandings and conceptualization's of sporting behaviour. To date however, this has not proven to be the case. Rather, lacking the provision of any systematic alternative methodology(s) by which theoretical understandings, and/or therapeutic techniques, may be adequately evaluated, built, or further developed, the applied discipline has instead been left only with the chronic inability to achieve significant theoretical growth, which has in turn continued its dependence upon theoretical formulations derived extensively from outside the field of sport - most prominently from mainstream psychology.

Thus, far from breaking the much maligned dysfunctional and exploitative relationship that has historically plagued the interactions between mainstream and sport psychology, the applied school has, in a twist of bitter-sweet irony, merely reversed it. For rather than sport continuing to serve as the unrewarded workhorse of mainstream interests, it is now mainstream theory that finds itself involved in a non-reciprocating, one-way flow of information from itself to the applied discipline. In essence then, while the direction and development of "academic" theory has been constrained by an overly inflexible methodology, the development of "applied" theory has, by contrast, been restricted by its apparent lack of a coherent methodological structure!

Contributing further to this restriction of theoretical development is the less tangible, though potentially more far-reaching, limitation of applied sport psychology's currently atrophied conception of "theory" itself. For where theory has previously been conceived of as the means by which we come to understand and explain behaviour (even though the conceptualisation of "explanation" has historically proven to be inadequate

within academic circles), within applied sport psychology, it is this explanatory objective itself that has been largely eliminated. In its place has come the call for "theory" that aims purely and simply at predicting the likely outcome of future sporting performances.

The (financial) pressures exerted upon applied sport psychologists to enable overt improvements in athletic performance, along with their more general evaluative impotence, has thus translated into the creation of a greatly narrowed conception of theory in which its defining characteristic has essentially become the ability to manipulate future instances of empirical behaviour through the use of generalised descriptions and predictive rules - even where the causal operation of such rules are themselves not fully understood. Thus, for example, the "Inverted U" description of sport anxieties relationship to consequent performance is, under these terms, considered to be adequate theory for it allows the establishment of a predictive relationship between an athlete's anxiety level and the likelihood of future optimal performance - even though the causal mechanisms that underlie this process may remain a mystery. Indeed, Martens himself has stated that a knowledge of causal structures and generative mechanisms is largely unnecessary for

we can readily enough develop programs for helping athletes manage their anxiety without fully knowing the causes of anxiety. (Martens, 1987, p. 53)

Again, then, another clear irony is found to exist. For while Martens critiques academic reductionism for this exact tendency, that is, the tendency to seek out simplistic, descriptive "regular relationships" between supposedly "fundamental" variables, he, and the applied school more generally, apparently advocate the promotion of just such descriptive analysis as the foundation of adequate theory, merely provided that it is free of any similar reductionist regresses in its own structure. While the appeal of such instrumentalist, or predictive, approaches is readily apparent, and indeed can easily seduce the uncritical thinker into the somewhat cavalier attitude of *never mind how it works as long as it works*, as a conception of theory, it is unfortunately, wholly inadequate. For if theory is to tell us anything at all, it must tell us how things work.

The applied school's confused belief that we may easily alleviate the psychological problems of sport (for example, anxiety) without achieving some understanding of their "causes", is then, mistaken. For what it consistently fails to appreciate is that the very "remedies" it ultimately promotes are, in fact, initially based extensively upon our theoretical knowledge of the underlying causal structures of such psychological inhabitants, and only subsequently upon the kinds of generalised, descriptive knowledge, that applied practitioners wish solely to employ. Thus, in the case of sports anxiety, most programmes are typically based initially upon our causal knowledge of the dynamic impact of the underlying determinants of anxious sporting behaviour(s), be they cognitive - such as the effect of differing appraisals, apprehensions or objectives - or physiological - such as the mechanisms that redirect blood flow from our extremities to our larger muscle groups. It is only subsequently, when we discover the empirical situation of particular athletes, that the generalised descriptions promoted by applied practitioners - such as high anxiety's common association with low performance - may be more fully employed in order to determine what level of anxiety is most desirable in each individual case. If, however, we were provided solely with this latter, descriptive, knowledge we could in fact do very little to help the anxious athlete. For in the absence of any further information as to how the relationship works, we are essentially left unable to change it. Put more simply, if we do not know how something works, be it human or machine, should it break down, we are seldom in a position to adequately "fix" it.

The existence of such inherent problems and weaknesses within both academic and applied sport psychology, thus indicates that beyond their immediate inability to meet the psychological challenges presented by the sporting context, neither school is even potentially capable of, single-handedly, meeting such challenges. While the academic fraternity have suggested innumerable "improved strategies" that it believes may eventually enable it to overcome its current limitations - such as, greater reductionism for more "fundamental" understandings(Morgan,1989), more "imaginative" experiments to

overcome the seeming artificiality of its data/results(Landers,1989), better "measurement technologies" for greater accuracy(Roberts,1989), and so on - such obsequious calls for stricter applications of the same orthodox method are ultimately destined to fail. For it is not simply "unimaginative" experimenters that limit what we can learn from experiments, but rather, what experiments themselves are capable of telling us. In short then, the limitations exist within the method, not within those using it.

Equally, although the applied school has increasingly acknowledged the many short-comings involved in its present approach, it similarly believes that these may be (easily) resolved by modifying certain aspects of its current direction. Again, however, it too fails to comprehend where the ultimate source of its limitations lie; this being not so much in its focus solely at the level of empirical instances of sports behaviour, as is often claimed, but rather in what it is reasonable for us to expect to learn from such a focus. For while it clearly enables a multitude of valuable insights into the actual operation of many of the fundamental, or generative, structures of sport psychology within different contexts, alone it cannot fully enlighten us as to the actual nature of such structures. Thus, while the calls for improvements such as more problem-oriented, evaluative research using alternative methodologies(Martens,1987; Feltz,1987), are undoubtedly useful, they still cannot provide the applied discipline with the "whole answer" to the varied questions of sport.

### The Realist Interpretation

It is at this problematic juncture that the alternative theory of Realist philosophy can, I believe, no longer be denied. For its radical reinterpretation of the nature of human knowledge, causality and the ontological structure of the world, provides it with both a unique and coherent insight into the appropriate role(s) of different "sciences", and thus, into the potential resolution of those outstanding issues that presently continue to confront both sport psychologies. Indeed, perhaps the most immediate achievement of Realism's broader epistemic framework, lies in its clear reconceptualization of the two sub-disciplines

various methodological "weaknesses", as being more accurately construed of as merely representations of the inappropriate application of method, rather than of inherently flawed, or universally redundant methodologies. Thus, at a fundamental level, it asserts that we must always critically assess whether our method is appropriate, or capable of achieving, the knowledge goals and objectives we have set for it. In this way, through its integrated world view and systematic programme of analysis, it represents a vital and commanding alternative to the (neo)positivist systems and constructions that traditionally have determined the polarisation of competing views and positions into the disharmonious dichotomies that are widely evidenced today.

That neopositivism lies behind the unjustifiably extreme attitudes of mutual exclusion that currently exist within sport psychology, with regards to the methods and procedures of the two competing factions, is a largely unrecognised, but highly significant case in point. For what is seldom acknowledged in this area is that both schools presently continue to ascribe to many of positivism's fundamental tenets; that is, both continue to ascribe to the belief that the understandings, or knowledge, they generate through their research must necessarily be structured within positivism's world view of contingently related phenomena and predictive "explanations". Once the presence of this common ascription is acknowledged however, what becomes clear is that much of the methodological competition we currently witness stems not from the desire to achieve different understandings of sport psychology - as is commonly assumed - but from the desire to achieve very similar understandings (that is, neopositivist) through the use of substantively different methods. The two methodologies thus have not been attempting to answer uniquely *structured* questions peculiar to their own particular spheres of inquiry, but have, instead, been attempting to resolve a common set problems (if not research topics) in a highly competitive fashion. The opportunity for complimentary, methodological co-existence within this environment has unsurprisingly proven to be virtually impossible.

At first glance the plausibility of the above assertions would appear to many to be slight. For while few would doubt the empiricist character of academic sport psychology, it is equally the case that just as few would readily recognise such traditions as existing within the applied branch of the discipline. However, that such traditions do exist within applied sport psychology is undeniable. Indeed even amongst its most progressive proponents, such as Martens(1987) and Feltz(1987,1989), empiricist notions of Humean causation and lawfulness [for example,“..knowledge...is still knowledge as long as its *probability* of being correct is greater than *chance*.”(my emphasis, Martens(1987),p.45)] and hypothetico-deductive (H-D) (predictive) theoretical systems are clearly retained, and conceived of as representing the fundamental structures upon which any adequate understanding of sporting behaviour must be built - even those constructed through the use of the alternative methods they propose. This then serves to explain why although applied sport psychology has been vocal in its criticism of much of the academic disciplines methodology (that is, experimental over tacit understandings) and research topics (for example, its preference for “abstract questions” over “practical problems”), it has not generally extended its criticisms to the more fundamental structure of the understandings that such research attempts to construct (that is, its preference for predictive over explanatory understandings). Debate has concentrated less upon the fundamental objectives of research than it has upon the best route, or method, by which such understandings may be effectively achieved. Clearly, as long as each school continues to believe that the redundancy of the other lies essentially in its method - be it experimentally or tacitly founded - rather than in its essentially positivist perception of the nature of "reality" (and consequent purpose of its research) then little progress can be expected towards the potential reconciliation and co-operation of the two sub-disciplines.

What is required then, in the first instance at least, is a rejection of this pervasive and inadequate, “empiricist ethos” that historically has proven to be the creator and maintainer of disunity and fragmentation within sport psychology, and the adoption in its



place of an alternative system capable of combating such rampant factionalism. It is most significantly Realism's disparate conception of *causation* that situates it so ideally for assuming this essentially unifying role.

## Realist Science: Reevaluation and Synthesis

Discovering the cause(s) of an event within neopositivist thinking has typically involved the search for “constant conjunctions” between what are assumed to be contingently related variables. While the discovery of such constant conjunctions - typically identified via the presence of high correlations - is not considered to be a *sufficient* condition to automatically infer the existence of a causal relationship, it has almost unanimously been thought to at least represent a *necessary* one. The effect of this contingently founded causal epistemology has been to produce not only the widely assumed (though mistaken) symmetry between prediction and explanation, but also to direct academic and applied research towards the same ends of simply attempting to uncover such constant conjunctions. For as events are thought to simply consist of sequentially and contingently related variables, the search for what may be termed “real causes” has been rendered essentially meaningless; the only viable search left is that for stabilised patterns, or generalisable narrative descriptions, of behaviour. Thus, we find within the applied discipline that interest is focused primarily upon uncovering those generalised patterns of sporting behaviour that are derivable from linking together qualitative aspects of the sporting context via the coaches and athletes own tacit understandings of what elements and variables together combine so as to most often produce a positive sporting outcome. Equally, within academic sport psychology this contingent causal epistemology is expressed through the experimentally based strategies that aim to uncover highly correlated variables within the laboratory in order that they may then be unproblematically used to directly explain similar relationships within the world of actual events.

As noted earlier, the *structure* of the research question thus remains the same for both schools, for both aim to discover the same stable, predictable and contingently based patterns of sporting behaviour that they believe will “explain” the psychology of sport - though they approach the problem from opposite ends of the spectrum. The mechanisms that underlie or produce such patterns (and the other various outcomes evidenced), how they work and what properties they possess are, under these terms, granted only a secondary and hypothetical status. As “real” causes are not thought to exist, the consideration of causal structure is consequentially seen to merely represent a search for potentially useful “conceptual tools” that may facilitate our understanding by way of providing helpful analogies; it is certainly not considered to be our central focus of concern.

Realism, by contrast, contends that causes are more than merely overt regularities, but rather that objects have various causal powers and liabilities by virtue of their nature. This notion of *generative cause* (Harre & Madden, 1975) states that objects actually produce changes as a consequence of the mechanisms they possess. Thus, metals, for example, have the causal power to conduct electricity not because the conduction of electricity is always associated with the presence of an electric current, but rather because metals possess the structure/mechanism of free ions. Note here that even in the absence of an electric current, metals still retain this causal power. It exists independently of it now or ever being actually realised. Because of this, an object (or causal mechanism) cannot be directly linked to the effects that it may produce, for such effects are determined in the contingent conditions in which the object is placed.

It is this central insight, the disassociation of an object's causal powers and liabilities from being directly related to its consequent effects- as these depend upon the multitude of contingent contexts in which it may be operating- that most radically transforms the objectives and roles that Realist philosophy proposes are most appropriate for the academic and applied branches of sport psychology.

Academic sport psychology's employment of empiricist experimental method has traditionally viewed the goal of such laboratory based research to be that of uncovering the patterns, rules, or generalized (H-D) "laws" of behaviour by which we may then directly predict/"explain" the behaviour of specific individuals outside of the laboratory. By the above Realist analysis, however, this goal is patently inappropriate for at least two major reasons. Firstly, because if the particular causal powers and liabilities that an object will realise on any particular occasion depend entirely upon the enabling or inhibiting conditions of the context in which it is placed, then its operation within the controlled environment of the *closed system* laboratory is highly unlikely to be matched by its operation within the complex *open system* of the world of sport. Thus, it becomes clear why academic sport psychology's past and present attempts at extrapolating its laboratory/experimental findings directly onto real sporting contexts have proven to be fraught with difficulties, and ultimately unsuccessful. It is because the two contexts elicit very different causal responses from the individuals involved.

The second reason for the traditional employment of experimental method to be considered inappropriate, from a Realist point of view, is because its focus upon simply predicting behaviour ignores the more important task of seeking to uncover the nature and structure of the generative causal mechanisms that underlie the behavioural patterns observed. Given that objects possess an independent causal structure that will always be underdetermined by its effects- that is, the limited number of contexts in which we can observe the object will not reflect its total causal capacities- the role of experiments is clearly not to simply catalogue the various patterns of responses observed in the different experimental contexts in which we can place the object. Rather, the appropriate goal of experimental analysis, with regards to the patterns it may uncover, lies in their employment as tentative clues as to the possible nature and structure of the causal mechanisms implicated. The aim then is to create theoretical understandings, or models, of the underlying causal mechanisms involved. Objects, then, behave necessarily due to their

causal structures within different contexts. If we can uncover these structures, via experimentation, we are better able to evaluate how the object may consequently behave within any particular contingent context. The actual explanation of concrete behaviour is thus not the concern of experimental, academic sport psychology, for such explanations require the additional knowledge of context - material and socio-cultural - that academic sport psychology does not possess. Rather, this explanatory role is thought to be the proper function of the applied sciences, and in this case, of applied sport psychology.

The role of the applied sciences and their relationship to their academic, experimentally based counterparts may be more easily understood by reference to the physical science example of Meteorology presented by Secord and Manicas(1983). In Meteorology we find an example of a discipline that applies causal knowledge of mechanisms and structures in the physical world that have been derived from the work of the experimental sciences; such as physics, chemistry, geology, and astronomy, to specific contingent contextual situations, in which knowledge of the local terrain, time of year, amount of industrial pollutants and so forth are provided, in order to explain and predict concrete instances of weather. Consequently, Meteorology is not considered to be an "exact" science, and we are clearly much better able to causally explain previous weather patterns than we are able to predict those which may appear in the future. For while our knowledge of the causal structures involved is often incomplete, or even simply incorrect, we are more often entirely unable to know the exact configuration over the contingent context in which such structures will be operating. An unforeseen volcanic eruption of tonnes of ash and debris, for example, could wreck havoc upon a forecast of clear skies and sunny weather!

The implications of this style of analysis for the structures and objectives of all social science, and of sport psychology in particular, are profound. The previously cited criticisms of experimentally based academic sport psychology as being a discipline removed from the "real" issues confronting athletes, of embarking upon experimental

studies that lack any significant degree of external validity, for example, may now be reinterpreted within the light of the greatly circumscribed role now prescribed for experimental analysis. By seeking to uncover causal mechanisms rather than simply reflecting the overt behaviours witnessed outside the laboratory, high external validity is now no longer dependent upon the degree of similarity existing between the object's behaviour inside and outside of the laboratory. The relationship between internal and external validity is thus not one which is antagonistic, or inversely related as is so commonly supposed. Indeed, as long as the object under investigation *retains its identity across the experimental situation*, then the fact that it may act differently across experimental and open system contexts should not be surprising- indeed, quite the opposite in fact! For as Greenwood(1982) states,

experimental method is not invalid because persons behave differently in the laboratory than they do in the real world, anymore than the experimental method is suspect in natural science because mechanisms behave differently in closed and open systems.(p.232)

High internal validity that allows us to subsequently *retroduce* the structure of the causal mechanisms involved is then directly related to the adequacy of our external validity, that is, our explanation of their operation within complex open systems.

Equally, applied sport psychology's much criticised strategy of appropriating theory from its academic counterparts, and of using tacit, contextually based information to formulate remedial, or performance enhancing, programmes for athletes, may no longer be conceived of as necessarily representing entirely inappropriate, "unscientific", or regressive approaches any more than such theoretical borrowing and contextually specific information is inappropriate to, for example, meteorological investigations.

Thus, Realism's alternative to the traditional Humean conception of cause allows us to redefine the directions, objectives, and aspirations of the two schools of sport psychology in such a way as to permit the particular strengths and weaknesses of each to compliment one another in a co-operative and productive fashion. While the change in

emphasis required by each school is significant, it should be noted that many of the "infrastructural" requirements; that is, experimental method, qualitative understandings, and so forth, are already in place.

### The Problem Of Consciousness

Having said this, however, it must be conceded at this point that there remains several contentious areas of concern that must be dealt with before the academic-applied research structure outlined above can be unproblematically taken up within the realm of human sports behaviour. For, as many would be quick to point out, although this system would appear to work well within the physical sciences world of inanimate objects, significant obstacles remain to its easy application to the social sciences.

Most significant amongst these is the apparent antagonism that exists between the realist notion of structural natural necessity and the existence of human agency and free will. For realism's contention that an object will necessarily realise certain causal powers and liabilities when placed within a specific environment due to its independent causal structure appears a difficult concept to extend from the physical to the social world. That metals will always necessarily conduct electricity in the presence of an electric current by virtue of their independent causal structure is easily comprehensible; that humans behave similarly is not. For even within a closed system "it typically seems that the person could have done otherwise than the actual act performed." (Secord, 1990,p.80) The fact that people can choose to act differently when placed in identical situations would appear then to jeopardize the legitimacy of realism's causal-explanatory approach with regards to the human sciences.

From an acceptance of this point, the acceptance of the existence of human freewill, many have argued that attempts to causally explain human behaviour by reference to the necessary action of generative mechanisms and structures is in fact impossible. Instead, they contend that human consciousness demands that the proper goal of scholarship becomes one of seeking to understand an actor's own motivations and/or understandings of

a situation, and therefore to clarify the meanings of the participants actions. Thus, they argue in the manner of Wittgenstein(1922) and Winch(1958), that because human action is largely *intentional* it cannot be properly understood without fully knowing the actors own intentions; for example, does a two fingered gesture represent an obscene sign or simply the traditional 'V' for victory? This hermeneutical perspective thus contends that the overriding task of social scholarship lies in the interpretive analysis of meaning, of the semiotics of human action.

Because human action, so conceived, is based within the continually changing world of constitutive meaning, all actions are perceived to be so individuated and particularised that to talk of "cause" becomes inappropriate or redundant. Actions cannot be explained by causes, but merely described by references to meaning. Within psychology the expression of this view is most closely associated with Gergen's (1985,1986) *social constructionist* position. This states that human action is a socially constructed product of the meanings we assign to our behaviour and that consequently it is only by examining such constructions that we can ever come to understand the behaviours observed.

Unsurprisingly, the relativist themes of such hermeneutically based approaches have been vehemently rejected by all parties interested in representing a "scientific" approach to the study of human behaviour, but as Greenwood(1982) has noted, in the rush to reject such hermeneutical accounts

tout court, a number of very important babies...[have been] thrown out with the bath water.(p.226)

For while such accounts clearly cannot be reconciled with the traditional view of causation, based as it is upon the existence of invariant relations between variables, Greenwood(1982,1989) and others have argued that many of the central insights of the hermeneutic approach may be unproblematically retained within the realist position without

threatening its notions of natural necessity or the potential of causally explaining human behaviour.

The basis of this realist belief lies simply in the fact that reasons, beliefs and choices may themselves be granted *causal status*; they may be seen to be as much essential features, or structures, of "humanness" as the property of free ions is of "metalness". As such they are not thought to be able to directly explain instances of behaviour at the concrete level of actual events, as is supposed by exclusively hermeneutical accounts, but rather are thought to have generative structures and enabling and inhibiting (social) conditions that are themselves potentially knowable. Thus, while peoples ability to behave differently in similar situations as a result of the different choices they make does make causal explanations extremely difficult, it does not make them impossible. Manicas(1986) has argued from this position that experimental science may then be able to examine the generative structures all humans share at the cognitive level that allow the faculties of rational decision making and free choice to occur, while sociological, anthropological, and hermeneutical approaches may equally be employed to show how such causal structures interplay with the open ended rules of social institutions that regulate our everyday behaviours and by which our actions are understandable. Thus, the central insight of the hermeneutical approach is maintained but placed within the broader framework of a greater explanatory picture. A picture which includes causal mechanisms (discovered in the experimental laboratory), individual history and self perceptions, plus implicated socio-cultural structures.

The acknowledgement of the relevance of this hermeneutical element to social research may then be seen as having its greatest significance to realism's research programme in that its focus upon meaning clearly demonstrates the *relational nature* of social phenomena and thus of the inherently *interdisciplinary* status of attempts to explain such phenomena. That social behaviours are relational in nature; that is, they are understood by the actor and others in terms of their relationship to various aspects of the



context in which they occur, is particularly significant in terms of the changes it suggests are required in the style and structure of the human experimental situation currently employed.

The goal of experiments conducted within a realist framework is to allow an "epistemologically privileged observational situation" (Greenwood, 1982, p.228) in which interfering, extraneous mechanisms may be eliminated in order that the operation of the causal mechanisms implicated may be more clearly observed. This approach may be useful in both the theory building stage of research, whereby patterns of behaviour may be usefully employed to retroduce the possible structures of the underlying causal mechanisms involved, and later, at the stage of theory testing whereby the scientist closes the system to interfering mechanisms in order to confirm his/her beliefs, or model, concerning the operative structure of the mechanism under investigation.

In both cases, it is in the closure of the system, in the definitive task of the experiment, that an awareness of the relational status of human behaviour becomes critically important. For in attempts to isolate particular aspects of human behaviour via systems of experimental control - either *physical*, involving the isolation of the mechanism from all others, and/or *control*, in which a control system is established which reproduces the experimental system in all features except the proposed causal mechanism - we run the very real risk of altering the relational nature of the behaviour which defines "what it is". Greenwood(1982) expresses this problem as concerning that of the "artificiality of alteration."(p.235) By this he refers to the manner in which

the removal...of constitutive social psychological relations [or the introduction of extraneous, 'contaminating' variables] alters the phenomena under investigation.(p.243)

In more traditional terms, this problem may be said to threaten the "construct validity" of the behaviour under investigation, that is, it suggests that we may well not be examining the construct that we think we are examining.

This problem of construct validity, as it concerns the artificiality of alteration, therefore demands that social experiments must ensure that successful relational reconstructions are achieved within the laboratory in order to ensure the successful reproduction of the participants' interpretations and behaviours - and thus, the operation of the causal mechanism(s) of interest under inquiry. Within traditional experiments such relational concerns are seldom addressed. Instead, more often than not, defining socially constitutive relational features of the behavioural context are stripped away, leaving experimental settings that are either unrepresentative, or ambiguous in terms of the meaningful interpretations that the actors/subjects within them can make. This is not to say that full-blown reproductions of the social context are required within the laboratory - for this would negate the whole point of performing experiments - but rather, to argue that a more anthropologically and sociologically sensitive approach, as promoted by realism, is required in order to ensure that the essential features, or relations, of the context are maintained.

While this is undoubtedly an extremely difficult task, in which no simple formulas or rules are available to ensure that the abstracted relational structure employed within the experimental setting are correct, certain methodological "non-starters" can be identified. Foremost amongst these is perhaps the "deception experiment". For experiments that aim to hide, or conceal, from the participants the true purpose of the activities that they are to perform have failed to recognise that this "purpose" is itself vital to the meanings that such activities hold for the participants, and thus to what behaviours and mechanisms are actually elicited. What experimental subjects think they are doing, how they conceive of their experimental situation, and so on, all help to define the behaviours performed and are therefore crucial to the valid reproduction of the construct under investigation within the experimental setting. Thus, far from disguising, or misrepresenting, the contexts and behaviours we wish to study, we should, as far as possible, aim to simulate them along with the agents representations according to the known manner in which the relevant

actions are constituted. With this purpose in mind, Greenwood(1983,1989) and Secord(1990) have proposed the employment, by social psychological experimenters, of an "active role-play" or "simulation" methodology as a replacement for the more "relationally insensitive" methods of experimental analysis currently in place.

### Sport Psychology's Privileged Position

While the immediate potential of the foregoing methodological approach is at present somewhat limited within most branches of experimental social psychology - due to the difficulties involved in abstracting out of the complexities of the various systems which relations are relevant or constitutive, which societal structures are implicated, and so forth - within the more tightly structured world of sport, the current applicability of such an approach is, I believe, much greater. That most sporting endeavours are performed, in an immediate sense at least, within a semi-closed, highly formalised environment, in which overt "rule following" and shared contextual interpretations are necessary for the sporting event to occur, means that our potential ability to causally explain such behaviours is greatly increased - for several essential aspects of their relational context have been laid, at least, partially bare. Experimental sport psychology is thus privileged in that in certain relevant ways it is more readily able to create experimental contexts that accurately reflect many of the structures of its corresponding real life situation such that the athletes meaningful interpretations remain constant across the two conditions.

Consequently, our understanding of psychological sporting constructs such as anxiety, motivation, concentration, aggression, and so on, which have traditionally been investigated in isolation from their constituent causal relations, thereby creating misrepresentations of their natures, are well positioned to benefit from the employment of more "contextually sensitive" methodologies. The potential for significant advancements in our sporting understandings of such complex constructions, by the adoption of such contextualising strategies, is then, enormous.

In practical terms, the employment of, for example, Greenwood's(1983) "active experimental role playing" procedure, would involve, firstly, the identification of the definitive relational aspects of the context, here relatively easily isolated due to sports more rigidly defined, quasi-closed structure; and secondly, the construction of various scripts, each of which maintains the key relational aspects previously identified, while simultaneously manipulating some theoretically relevant aspect of a real life situation. Participants then act out each of these scripts with their actions and interpretations being used to retroduce the likely nature of the causal structures responsible for their production. In addition, the contextual manipulations this method enables, allows the nature of interfering causal mechanisms to be identified; that is, it allows the identification of those features of the context which significantly impact upon the operation of the construct of interest. Thus, Greenwood(1983) concludes that the merits of such an experimental approach lie in that it can

achieve isolation without alteration, and by the progressive reconstruction of social situations, conditions that generate and prevent social behaviours can be identified, as well as factors which alter the relational nature of social situations.(p.249)

Note, however, that in the case of sport psychology there exists the potential to go even further in the experimental reconstruction of relevant relational aspects of the context. For here it is quite possible to take Greenwood's strategy of "scripting scenarios", and to employ it directly within situations where the sport is being practiced, that is, "rehearsed". This has the advantage of allowing the construct of interest to be studied in a relationally near ideal situation, while still enabling the investigator to exert certain controls of closure over the experimental context. Thus, for example, sport anxiety may be studied within the setting of "practice" games, with anxiety inducing factors being artificially imposed via the scripting of different scenarios for the players. In this way, the likely retroduction to various causal reasons, beliefs, structures and attributions are given greatly increased "construct validity" from those derived from more traditional methods.

Thus, one of the most difficult problems facing social experimental research, that of maintaining the constituent relational structures of a construct while simultaneously attempting to isolate it from interference from extraneous causal mechanisms, is more readily resolvable within sport psychology, due in part to its nature, and in part to the redefined goals, and thus methods, realism has established as being appropriate for science.

More generally, then, the alternative philosophy of realism may be seen to have suggested a whole plethora of advantages to the realm of sport psychology, both at the level of its structures as a discipline and at that of its practices as a science. By reconceiving of science as the employment of those methods that enable the development of practically adequate knowledge through the production of causal-explanatory models of the world, realism is able to employ a multiplicity of rational methods in the achievement of this end. The rationality of the method thus becomes a matter of how their employment is consistent with the objectives of research defined by realist thinking. By these criteria, the two schools of sport psychology, which contain highly different methods and immediate objectives, when placed under this common philosophical umbrella become intelligible as representing different methodologies concerned with examining complementary questions. Under these terms, the prevailing atmosphere of mutual distrust and competitive jealousy is not only unnecessary, but nonsensical. Thus, realism gives us substantial grounds for optimism for it suggests that, if adopted, competition should quickly fade into co-operation, and further, that given the privileged position sport psychology holds due to the structured nature of its context of concern, a virtual 'Aladdin's cave' of treasures is potentially ours for the taking.

## Poststructuralism Revisited

In order to be consistent with the earlier assertions that it is only through critical self-examination that we might ward off the temptations of dogmatism, and thereby,

continue to evolve, it now becomes rational to consider the adequacy of the above realist programme for sport psychology in terms of the deconstructionist 'method' outlined earlier. The benefits of such an approach lie chiefly in its ability to inform us where our constructions may be ideologically founded by criteria that exist outside of our stated frame of reference - that is, outside of what realism contends is rationally acceptable.

Initially, it is useful to note that deconstructive 'method', if applied to the tenets of empiricist philosophy - as indeed it has been by theorists such as Derrida(1978), and Norris(1982) - would come to essentially similar conclusions to those drawn by the realist analysis outlined earlier. Though the path of its logic is somewhat different, based as it is upon an examination of empiricism's unjustified privileging of the notion of truth as the foundation for its consequent method and practice, its overall critique is similar. Further, although many poststructural theorists would seek to deconstruct realist theory upon similar grounds, it is contended here that realism's acknowledgement of the potentially fallible nature of all knowledge, and the fact that it seeks only to construct systems of meaning that may prove "practically adequate" for guiding our behaviour in the world, effectively deflects such criticisms.

An examination of further concepts, or constructs, that may be unjustifiably privileged within realist analysis, and which may, therefore, have disquieting ramifications upon its structure as a whole, does however, uncover some potential concerns that may not be so easily explained away. I refer, in particular, to realism's founding concepts of rationality, pragmatism and explanation, which, in the light of a growing body of feminist discourses on the nature of science are often seen to represent reflections of patriarchal ideology more than 'rational' features of science. While the 'truth', or adequacy of such feminist analysis remains a contentious issue, the deconstruction of realist theory, even at the very superficial level at which I have invoked it here, does provide us with the insight that feminist theory could potentially inform realism's philosophy in valuable ways. It is contended here, without wishing to delve any deeper into the issue at this time, that similar

deconstruction at a more specific level within particular causal theories and models, particularly the social psychological models employed within sport psychology, may prove equally useful.

## Conclusion

The analysis contained in the preceding pages continually reiterates the main theme of this thesis, that being the existence of an inherent link between adequate philosophical conceptions of science and the consequent adequacy of the theory and method it produces when incorporated into disciplinary practice. The historical privileging of empiricism within the structures of scientific psychology can thus be seen to achieve the exact opposite of what its proponents believe themselves to be achieving when they champion its exclusive employment. That is, because of its unrealistic expectations concerning the structure of reality and our presumed accessibility to this structure, empiricism destroys its own viability as an adequate conception of scientific method, and thus, so too does it invalidate the scientific claims of those who base their method upon it. Under these terms, then, it was shown how empiricist psychology in fact cannot be considered to represent a science.

In the search for alternatives to this philosophical doctrine it was demonstrated how the epistemic and ontological claims, or analysis, of realist theory position it as being empiricism's most likely, or at least strongest, successor. Not only theoretically was realism found to be superior to the foibled claims of empiricist thinking, but also in the concrete realm, in the analysis of sport psychology, it was found to be capable of undoing much of the harm empiricism had already wrecked!

In addition to such theoretically based claims, the foregoing analysis also provided a long overdue analysis of the unnecessarily divided discipline of sport psychology, and concluded that with relatively minor "physical" adjustments to its current mode of practice (though major conceptual changes in thinking are required!), this discipline is in fact well

positioned, and in many ways uniquely positioned, to make major advancements in its proposed area of investigation.

Finally, the need for continual self-monitoring should be restated, and the potential of the modern development of poststructuralism, as an effectual means of achieving this goal, and indeed perhaps of providing relevant critical insights onto all our proposed theories and models, confirmed.

In closing, it should be apparent to the reader that despite the continued reliance upon dogma that permeates much academic research and enterprise, the continually fresh insights being offered by a variety of sources in the area of method and theory provide substantial grounds for optimism about the future.



## BIBLIOGRAPHY

- Alderman, R.B. (1980), 'Sport psychology: past, present, and future dilemmas', in P. Klavora and K.A.W. Wipper (eds.), Psychological and Sociological Factors in Sport, Toronto: University of Toronto
- (1984), 'The future of sport psychology' in J.M. Silva and R.S. Weinberg (eds.), Psychological Foundations of Sport, Champaign, Il.: Human Kinetics
- Barnes, B. (1974), Scientific Knowledge and Sociological Theory, London: Routledge and Kegan Paul
- (1977), Interests and the Growth of Knowledge, London: Routledge and Kegan Paul
- Bernstein, R.J. (1976), The Restructuring of Social and Political Theory, Oxford: Blackwell
- Bhaskar, R. (1975), A Realist Theory of Science, Leeds: Leeds Books
- (1976), 'Two philosophies of science', New Left Review, 94
- (1979), The Possibility of Naturalism, Hassocks: Harvester
- Blackburn, R. (1972), Ideology and Social Science, London: Fontana
- Bourdieu, P. (1981), 'Men and Machines', in K. Knorr-Cetina and A.V. Cicourel (eds.), Advances in Social Theory and Methodology: Towards an Intergration of Micro-Macro-Sociologies, Boston: Routledge
- Briggs, J.P. and Peat, F.D (1984), Looking Glass Universe: the Emerging Science of Wholeness, New York: Simon and Schuster
- Campbell, D.T. (1978), 'Qualitative knowing in action research', in M. Brenner, P. Marsh and M. Brenner (eds.), The Social Context of Method, London: Croom Helm
- Davids, K. (1988), 'Ecological Validity in Understanding Sport Performance: Some problems of definition', Quest, 40, 126-136
- Derrida, J. (1978), Writing and Difference, (trans.) Alan Bass, Chicago: University of Chicago Press
- Dishman, R.K. (1982), 'Contemporary sport psychology', in Exercise and Sport Sciences Reviews, 10, pp.120-159
- (1983), 'Identity crises in North American sport psychology: academics in professional issues', in Journal of Sport Psychology 5, pp.123-134
- Dishman, R.K., Ickes, W.J., and Morgan, W.P. (1980), 'Self-motivation and adherence to habitual physical activity', Journal Of Applied Social Psychology 10, pp.115-131

- Fay, B. (1975), Social Theory and Political Practice, London: George Allen and Unwin
- Feltz, D. L. (1986 ), 'Theoretical research in sport psychology: from applied psychology toward sport science' in J.S. Skinner, Future Directions in Exercise and Sport Science Research,  
(1987), 'Advancing knowledge in sport psychology: strategies for expanding our conceptual frameworks', Quest, 1987, 39. pp.243-254  
(1988), 'Gender differences in the causal elements in Bandura's theory of self-efficacy on a high-avoidance motor task', Journal of Sport and Exercise Psychology, 10, pp.155-166
- Feltz, D.L. and Albrecht, R.R, (1986), 'Psychological implications of competitive running', in M. Weiss and D. Gould (eds.) Sport for Children and Youths, pp.225-230 Champaign, Il.: Human Kinetics
- Georgescu-Roegen, N. (1971), The Entropy Law and the Economic Process, Cambridge, Mass.: Harvard University Press
- Gelwick, R. (1977), The Way of Discovery: An Introduction to the Thought of Michael Polanyi, New York: Oxford University Press
- Gergen, K.J. (1985), 'Social constructionist inquiry: context and implications', in K.J Gergen and K.E. Davis (eds). The Social Construction of the Person, New York: Springer-Verlag  
(1986) 'Correspondence versus autonomy in the language of understanding human action', in D.W Fiske and R.A. Shweder (eds.) Methodology in Social Science, Chicago: Chicago University Press
- Giddens, A. (1981), A Contemporary Critique of Historical Materialism, London: Macmillan
- Goffman, E. (1981), 'The Presentation of Self', in D. Potter *et al.*, Society and the Social Sciences, London: Routledge and Kegan Paul
- Greenwood, J.D. (1982), 'On the relation between laboratory experiments and social behaviour: causal explanations and generalization', Journal for the Theory of Social Behaviour, 1982, 12.3, pp.225-250  
(1983), 'Role-playing as a experimental strategy in social psychology', European Journal of Social Psychology, 13, pp.235-254  
(1989), Explanation and Experiment in Social Science: Realism and the Social Constitution of Action, New York: Springer-Verlag
- Gill, D.L. (1981), 'Current research and future prospects in sport psychology', in G.A. Brooks(ed), Perspectives on the Academic Discipline of Physical Education, Illinois: Human Kinetics

- Habermas, J. (1972), Knowledge and the Human Interests, London: Heinemann
- Harré, R. (1970), The Principles of Scientific Thinking, London: Macmillan
- (1972), The Philosophies of Science, Oxford: Oxford University Press
- Harré, R. and Madden, E.G. (1975), Causal Powers, Oxford: Blackwell
- Harré, R. and Secord, P.F. (1972), The Explanation of Social Behaviour, Oxford, Blackwell
- Held, D. (1980), Introduction to Critical Theory, London: Hutchinson
- Hesse, M. (1980), Revolutions and Reconstructions in the Philosophy of Science, Hassocks: Harvester
- Irvine, J., Miles, I. and Evans, J. (eds.) (1979), Demystifying Social Statistics, London: Pluto
- Jefferson, A. and Robey, D. (1982), Modern Literary Theory, London: Batsford
- Keat, R. (1979), 'Positivism and statistics in social science', in J. Irvine, I. Miles and J. Evans (eds.), Demystifying Social Statistics, London: Pluto
- Keat, R. and Urry, J. (1975), Social Theory as Science, London: Routledge and Kegan Paul
- Kuhn, T. (1970), The Structure of Social Revolutions, Chicago: University of Chicago Press
- Lakatos, I. (1970), 'Falsification and the methodology of scientific research programmes', in I. Lakatos and A. Musgrave (eds.), Criticism and the Growth of Knowledge, Cambridge: Cambridge University Press
- (1976), The Methodology of Scientific Research Programmes, Cambridge: Cambridge University Press
- Landers, D.M. (1983), 'Whatever happened to theory testing in sport psychology?', Journal of Sport Psychology, 5, 77-90
- (1986), 'Sport psychology: A commentary', in J.S. Sinner *et al*, Future Directions in Exercise and Sports Science Research, Tempe: Arizona
- Landers, D.M., Boutcher, S., and Wang, M.Q. (1986) 'A report on the research submitted to the Journal of Sport Psychology, Journal of Sport Psychology 8(3), 149-163
- Levi-Strauss, C. (1976), The Savage Mind, London: Wiedenfield and Nicolson
- Lyons, J. (1981), Language, Meaning and Context, London: Fontana
- Manicas, P.T. (1981), Review of States and Social Revolutions, By T. Skocpol, History and Theory, 20, 204-218
- (1986), 'Whither psychology?', in J. Margolis, P.T. Manicas, R. Harré, and P.F. Secord (eds.), Psychology: Designing the Discipline, Oxford: Blackwell

- Manicas, P.T. and Secord, P.F. (1983), 'Implications for psychology of the new philosophy of science', in American Psychologist, April, 1983, 399-413
- Martens, R. (1975), 'The paradigmatic crisis in American sport personology', Sportwissenschaft, 5, 9-24
- (1980), 'From smocks to jocks: A new adventure for sport psychologists' in P. Klavara and K. Wipper(eds.), Psychological and Sociological Factors in Sport, Toronto: University of Toronto Press
- (!987), 'Science, Knowledge, and Sport Psychology', The Sport Psychologist 1, pp.29-55
- Marx, K. (1976), Capital, vol.1, Harmondsworth: Penguin
- Meikle, S. (1979), 'Dialectical contradiction and necessity', in J. Mepham and D.-H. Ruben (eds.), Issues in Marxist Philosophy: Volume 1, Dialectics and Method, Hassocks: Harvester
- Morgan, W.P. (1986), 'Sport Psychology in its own context: A recommendation for the future', in J.S. Skinner *et al*, Future Directions in Exercise and Sport Science Research, Tempe: Arizona
- Norris, C. (1982), Deconstruction: Theory and Practice, London: Methuen
- Oakly, A. (1981), 'Interviewing women: a contradiction in terms', in H. Roberts (ed.), Doing Feminist Research, London: Routledge and Kegan Paul
- O'Connor, D. J. O and Carr, B. (1982), Introduction to the Theory of Knowledge, Hassock: Harvester
- Polanyi, M. (1964), Personal Knowledge, New York: Harper and Row
- (1967), The Tacit Dimension, London: Routledge and Kegan Paul
- Popper, K. R. (1959), The Logic of Scientific Discovery, London: Hutchinson
- Pratt, V. (1980), The Philosophy of Social Science, London: Tavistock
- Quine, W. V. O. (1961), From a Logical Point of View, Cambridge, Mass.: Harvard University Press
- Ricouer, P. (1976), 'Restoration of meaning or reduction of illusion', in P. Connerton, Critical Sociology, Harmondsworth: Penguin
- Roberts, G.C. (1986), 'When motivation matters: the need to expand the conceptual model', in J.S. Skinner *et al*, Future Directions in Exercise and Sport Science Research, Tempe: Arizona University Press
- Sartre, J.-P. (1963), Search for a Method, New York: Vintage Books
- Sayer, A (1981), 'Abstraction: a realist interpretation', Radical Philosophy, 28, pp.6-15
- (1984), Method in Social Science: a Realist Approach, London: Hutchinson

- Secord, P.F. (1990), 'The need for a radically new human science', Annals of Theoretical Psychology, 6, pp.75-87
- Skinner, B. F. (1972), Beyond Freedom and Dignity, London: Jonathan Cape
- Suinn, R.M. (1980), 'Psychology and sports performance: Principles and applications', in R. Suinn(ed), Psychology in sports: Methods and applications, Minneapolis: Burgess
- (1986), 'Models from behavioural clinical psychology for sport psychology', in J.S. Skinner, *et al*, Future Directions in Exercise and Sport Science Research, Tempe: Arizona
- Toulmin, S. (1982), 'The genealogy of consciousness', in P.F. Secord (ed.), Explaining Social Behaviour: Consciousness, Human Action and Social Structure, Beverly Hills: Sage
- Urry, J. (1981), The Anatomy of Capitalist Societies, London: Macmillan
- Vealy, R.S.(1989), 'Sport personology: A pragmatic and methodological analysis', Journal of Sport and Exercise Psychology, 1989,11, 216-235
- Willis, P. (1978), Profane Culture, London: Routledge and Kegan Paul
- Winch, P. (1958), The Idea of Social Science, London: Routledge and Kegan Paul
- Wittgenstein, L. (1922), Tractatus Logico-Philosophicus, London: Kegan and Paul